Appendix A

Marine Recreational Fishery Statistics Survey Procedures Manual

National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Office of Science and Technology
Fisheries Statistics and Economics Division, F/ST1

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ATTACHMENTS

1.0 INTRODUCTION

The purpose of this manual is to document procedures to conduct the Marine Recreational Fishery Statistics Survey (MRFSS). It is intended to supplement the Statement of Work which is included with the 1998 Request for Proposals.

This manual is intended to be a dynamic document. Sections will be modified and added as the MRFSS evolves. Any questions or problems not covered in this manual should be directed to the National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Office of Science and Technology, Fisheries Statistics and Economics Division (F/ST1).

1.1 Background

The National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS) is required to conduct a survey of marine recreational anglers, gathering information on their catch, participation, and effort in marine recreational fishing, and selected demographic characteristics.

Until recent years, it was thought that commercial fisheries took the greater part of the total marine fishery catch in the territorial seas of the United States. However most species of fish in estuarine and open ocean areas are harvested by both recreational anglers and commercial fishers. Recent data indicate that catches by the marine recreational fishery are a significant portion of the total landings of many marine species. The need for commercial catch statistics has been satisfied in the past with routinely collected catch and effort data for most commercial fisheries. Added management responsibilities imposed by Public Law 94-265, the Magnuson Fishery Conservation and Management Act of 1976 (MFCMA), made it necessary to collect data on the marine recreational fishery catch. Comparable data for marine recreational fisheries became available beginning in 1979.

Catch and effort statistics are fundamental for assessing the influence of fishing on any stock of fish. The quantities taken, the fishing effort, and the seasonal and geographical distribution of the catch and effort are required for the development of rational management policies and plans. Accurate and up-to-date catch statistics collected over the range of the species, with associated biological studies, provide conservation agencies with the information necessary to plan for management for optimum yield from fishery resources. These data are essential for State conservation agencies, recreational fishing industries, NMFS, the Regional Fishery Management Councils, and others responsible for or interested in the management and productivity of marine fisheries. The allocation of many fishery resources depend on the results of these surveys.

NMFS is charged with administering a program of research and services relating to the ocean and inland waters of the United States (Title 16, Chapter 9, U.S. Code). Collecting statistics on marine recreational fisheries is authorized by:

1. Section 5(a)(4) of the Fish and Wildlife Act of 1956, which provides for the collection and dissemination of statistics on commercial and sport fishing;

2. Migratory Game Fish Study Act of 1959 (Title 16, Chapter 9A, U.S. Code), which provides for a continuing study of migratory marine fishes, including the effects of fishing on the species; and

3. Sections 303 and 304(e) of the Magnuson Fishery Conservation and Management Act of 1976 (MFCMA), (Public Law 94-265), and the re-authorized and amended Magnuson-Stevens Fishery Conservation and Management Act of 1996 (MFCMA), (Public Law 94-265), which require the collection of statistics for fishery conservation and management.

4. Sections 802 and 804 of the Atlantic Coastal Fisheries Cooperative Management Act, which requires NMFS to develop and implement a program to support the state and Commission interstate fishery management efforts, including collection, management and analysis of fisheries data.

1.2 History

Comprehensive collection of catch statistics on marine recreational fisheries has been attempted only in recent years, largely because collecting such statistics is difficult and expensive. Recreational anglers are dispersed along the coast, fishing from boats, piers, jetties, docks and the open beach. They fish day or night, anytime throughout the year. The few coastal States collecting catch statistics use a variety of methods, but usually cover only a part of the State or selected segments of a fishery. NMFS conducted Salt Water Angling Surveys (SWAS) through the Bureau of the Census in 1960, 1965, and 1970. These surveys were supplements to the Bureau of Sport Fisheries and Wildlife's National Survey of Hunting and Fishing. Prior to 1979 the SWAS's were the only surveys that collected marine recreational catch and participation statistics by species for the entire United States.

The data collected in the SWAS were inadequate to satisfy the information requirements on recreational harvests of finfish. The SWAS did not provide sufficient information on areas of capture which is necessary for effective management of fishery stocks. More importantly there were substantial response errors associated with the one-year recall period required of anglers. Respondents were unable to correctly remember information requested on their fishing activity for a full year. In addition, data collected every five years were insufficient because of rapid changes in the recreational harvest. More detailed and reliable catch, participation, and economic statistics were needed on marine recreational fishing to provide comprehensive estimates of the domestic harvest of finfish and shellfish in U.S. waters. Information would be used for evaluating future demands on the fish stocks and for planning recreational facilities for anglers.

Regional surveys were conducted by NMFS in the North-eastern coastal States in 1974 and the South Atlantic and Gulf of Mexico States in 1975. The data collection approach involved a multi-stage sampling procedure. A basic assumption of the regional surveys was that the target population of recreational fishing households could be considered as a subset of the households with telephones. Random-digit-dialing methods were used to produce a sample frame of residential households with recreational fishing experience during the previous 12 months. A random sample of these households, stratified by population density and distance from shore, was mailed a questionnaire requesting detailed information on marine fishing activity during the previous 12 months. Numerous procedural weaknesses such as a low response rate to the initial screening phase and a very low response rate to the mailed questionnaire (approximately 25 percent) were identified.

Subsequently, a new methodology study was initiated during the late 1970's and pretested on the Pacific coast. Several data collection approaches were compared and one was chosen as the most cost-effective. The result was the current survey design, a complemented surveys approach which combines a telephone household survey with an on-site intercept survey. A random-digit-dialing telephone household survey is used to obtain participation and effort (number of fishing trips) data, and information on the proportion of fishing households in each county of the survey area. An on-site intercept survey (creel) was used to obtain the distribution of the catch per trip at the species level. The intercept survey supplied information on the number of anglers with and without phones, the State and county of residence, and other data of interest to fishery managers.

The complemented survey methodology was further tested on the Atlantic and Gulf coasts to ensure that: 1) information used in developing the Pacific coast sample frame was available for other parts of the country, and, 2) the approach was appropriate in areas with different geographic and demographic characteristics. The Atlantic and Gulf coasts study was completed in January 1978.

Marine recreational fishery surveys employing this complemented survey approach began in 1979 and have been conducted in the following areas and years:

Atlantic and Gulf coasts	1979-1998
Pacific coast	Mid 1979-1989,1993-1998
Western Pacific area	1979-1981
Caribbean area	1979, 1981

The survey is conducted continuously on an annual basis on the Pacific and Gulf coasts, and the Atlantic coast of Florida, and on a 10-month basis (March through December) on the Atlantic coast north of Florida. The survey is partitioned into bimonthly sampling periods called waves. January and February data on the Atlantic coast north of Florida have been collected periodically in the history of the survey and may be included in the 1999 survey. Data collected in each State includes catch (number and weight) by species and area of fishing, number of marine recreational anglers, number and length of fishing trips, fishing mode for each fishing trip, and disposition of catch.

1.3 Complemented Surveys

The MRFSS consists of two independent surveys--a telephone household survey and an intercept survey. The basic design of the MRFSS is shown as Figure 1. Data obtained from the telephone household survey are used to estimate the total number of marine recreational fishing trips taken by residents of coastal areas. This survey is generally limited to households in counties that are located within 25-50 miles of the coastline because the majority of the recreational fishing trips are taken by persons living in households in those counties.

The intercept survey is needed in addition to the telephone household survey because certain data cannot be reliably collected over the telephone in a cost-effective manner. These data include: exact species, total number of each species, and length and weight measurements. Data obtained from the intercept survey are used to estimate average catch per trip, the species composition of that catch, and the weight by species of that catch. This survey is also used to develop estimates of the number of trips taken by anglers from non-coastal counties. It is called the intercept survey because anglers are intercepted at fishing sites as they complete their fishing trips.

Data from the telephone household survey and the intercept survey are combined to provide an estimate of the total catch of marine recreational anglers. Total catch is reported by species both in quantity and weight. The MRFSS also provides an estimate of the number of marine recreational anglers in the United States.

Figure 1. Marine Recreational Fishery Statistics Survey Design

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          Marine Recreational Fishery Statistics Survey (MRFSS)
                  *                                    *
                  *                                    *
                  ▼                                    ▼
          Intercept Survey                 Telephone Household Survey
                                           in Coastal Counties
                  *                                    *
                  *                                    *
                  ▼                                    ▼
             Estimate of                          Estimate of
             Catch/Trip                         Number of Trips
                  *                                    *
                  *                                    *
                  ▼                                    ▼
              Catch/Trip x Number of Trips = Total Catch
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2.0 INTERCEPT SURVEY

2.1 Interviewers

2.1.1 Qualifications

Interviewers must have an educational background or field experience in identifying fish species. While interviewers are selected for their skills in fish identification, these are not the only skills required to be a successful interviewer. A good interviewer is one who can approach strangers with little reluctance, who can diplomatically handle touchy situations, who can follow procedures and complete forms with almost compulsive exactitude, and who can identify fish accurately at the species level. The intercept interview involves both a personal interview and a creel census (identification and measurement of the catch); a unique set of skills is required for each.

The specific tasks of a field interviewer are many. The interviewer will be expected to complete site assignments, to have all necessary equipment available and in proper working order (i.e., calibration of scales) while interviewing, to conduct interviews in a professional manner, to complete all forms accurately and to submit all forms in a timely fashion. Interviewers shall wear appropriate attire and present themselves in a professional manner while in the field.

In addition to obtaining interviews, the intercept interviewer is responsible for submitting site description information that is used in the sampling process to select sites. Intercept interviewers are also responsible for providing timely information on the completion of assignments and productivity information about the assignment.

2.1.2 Testing

Field interviewers are expected to have substantial fish identification skills prior to MRFSS training. They must be able to identify, by direct observation, the twenty most frequently occurring species in his/her geographic sampling area. Fish identifications must be at the species level. Therefore, initial testing is necessary to verify interviewers' ability to identify marine fish species in the area where they will sample. Testing from projections of high resolution 35 millimeter slides, such as those from the American Fisheries Society slide collection, along with descriptions of more subtle taxonomic characteristics would be a valid approach.

Interviewers must also be tested for their ability to correctly fill out forms and look up codes in manuals (i.e., 10 digit NODC species codes). This could be accomplished by completing Coding Forms while following hypothetical video or audio taped interviews.

Initial testing must also verify the interviewer's aptitude for successfully interviewing people in the subregion they will sample. Role playing would be a desirable method of determining this aptitude.

Field supervisors must conduct follow-up testing of each interviewer after the training session. Such testing must be conducted by field visits while an interviewer is conducting intercepts. Items to be tested at this later date would include, but not necessarily be limited to: knowledge of the MRFSS, species identification, proper coding of responses, and interviewing technique.

NOTE: All testing described in this section shall be conducted by the contractor.

2.1.3 Training

Individuals who successfully pass the initial fish identification test must be trained in proper procedures for conducting the Intercept Interview. Training programs must be designed to ensure quality and consistency of site selection and visitation procedures, interviewing methods, and coding and editing procedures. Subjects addressed in the Intercept Survey training sessions must include, but are not necessarily limited to:

1. An introduction to the objectives, goals and operation of the MRFSS and uses of the data that educates interviewers on appropriate responses to general questions from anglers in the field.

2. Procedures for selecting alternate interview sites and for updating site register data, supplemented by a discussion of sources of local information on fishing activity to aid in these tasks.

3. Proper procedures for screening for eligible anglers, conducting the interview and coding the intercept data form, including an item-by-item explanation of the data collection instrument and a review of all materials used to conduct the interview.

4. Proper procedures for completing all assignment tally and productivity reports.

5. Identification of the twenty most frequently occurring species in the interviewer's geographic sampling area without the aid of reference materials. Identifications must be accurate at the species level.

6. The effective use of taxonomic keys and other reference materials, including Peterson's <u>Field Guide of Atlantic Coast Fishes of North America</u>, Peterson's <u>Field Guide of Pacific Coast Fishes of North America</u> or <u>Fishes of the Gulf of Mexico</u> by Hoese and Moore to identify other less common fish species in the interviewer's sampling area.

7. A review of local names for fishes, identification aids for local fish commonly misidentified, and the use of the specified finfish species list.

8. Principles and techniques of random sampling, so that decisions on subsampling fish for measurement and subsampling anglers at high use sites can be properly determined under a

variety of field conditions.

9. Correct techniques for length and weight measurements for different groups of fishes, including scale calibration.

Interested State and regional NMFS personnel should be invited to each training session. Their local knowledge of fishing activity and fishing locations would be beneficial in the training process.

2.1.4 Supervision

Upon successful completion of initial MRFSS training, additional testing and training of prospective interviewers must be conducted in the field by a field supervisor for the area in which the sampler will work. Each new interviewer must be observed in the field during one of his/her first three assignments and at least once during each successive six month period following their initial field observation. Additional field observations and training of new interviewers are required until field supervisors can ensure that intercept interviews are being conducted completely, consistently, accurately and in accordance with the standard procedures in this manual. Supervisors should focus on the interviewers' abilities to deal effectively with people, properly conduct interviews, accurately code interview forms, and correctly identify species.

Field supervisors must have extensive field experience or training in marine fish identification. They must also have effective skills in managing and motivating personnel, and particularly in the application of techniques to prevent interviewer "burnout."

A minimum of the first 100 Coding Forms from each new interviewer must be reviewed for accuracy, completeness, legibility and consistency of coding by the field supervisor in each area. Although the field supervisor may not directly observe later Coding Forms, the field supervisor must still be involved in the resolution of all potential species identification problems and biological reasonableness issues for data submitted by samplers in his/her area. Field supervisors will be expected to review all fish records for interviewers in their area. In particular, the field supervisor must be able to verify the identification and measurements of all species reported by comparison with natural history information from the literature.

Field supervisors are expected to communicate frequently with interviewers in their area. Questions from interviewers on site assignments and sampling protocol should be encouraged. Regular feedback on Coding Forms is essential and remedial action must be taken when appropriate. Newsletters or meetings with groups of interviewers or other focus groups to review data collection procedures, site-specific sampling problems, species identification and new recreational fishery developments would be highly desirable. Follow-up species identification training conducted during field observation may be necessary for species of particular concern.

Referral lists for additional information, including the MRFSS Internet address and telephone numbers for local, State and Federal resource management agencies in each area, must be provided to all interviewers. There may be occasions when State agency or NMFS personnel observe interviewers or field supervisors in the field. Their role would be to offer constructive comments to project supervisors, not to directly supervise field personnel. Field supervisors are expected to contact the appropriate agency for information on current management regulations and issues of concern to anglers, and to coordinate sampling with State and regional Federal personnel when overlapping surveys exist.

Field supervisors will also be expected to conduct intercept interviews to backfill in those areas where there are interviewer staff shortages or interviewing quotas are lagging. They must also take the lead role in verifying that the Site Register (see Section 2.2.2.1 and 2.2.2.2) for their area is as accurate as possible.

2.2 Sample Frame and Allocation

2.2.1 Definitions

2.2.1.1 Wave

The MRFSS is structured around two-month periods called "waves." January and February are wave 1, March and April are wave 2, etc. Although estimates are made on a wave basis, assignments must be allocated between months of a wave proportional to effort and spread evenly within months so that there is a representative distribution of intercepts relative to effort, and intercepts are not clustered at the beginning of a wave or month.

2.2.1.2 Fishing Mode

The MRFSS is structured around types or "modes" of fishing. While there are many types of fishing, three major mode groups are considered: shore fishing (SH); head boat and charter boat fishing (PC); and private and rental boat fishing (PR). More exact definitions for these are:

<u>Shore (SH)</u>

1. <u>Pier</u>--A structure built out over water and supported by pillars, and without long-term docking facilities for boats;

2. <u>Dock</u>--A structure built out over water and supported by pillars/anchors, with long-term docking facilities for boats;

   Note: Historically piers and docks were coded the same; however, because there is concern that pressures, species compositions and catch rates may differ for these two types of fishing, coding them as separate modes will allow examination of possible assumptions. The variable containing this new code is in Attachment A.

3. Jetty--A kind of wall, usually made of rocks, built out into the water to restrain currents or protect a harbor;

4. Breakwater--An offshore structure used to protect a harbor or beach from the forces of waves;

5. Breachway--A shore along a connecting channel;

6. Bulkhead, Sea Wall--A retaining wall along a waterfront;

7. Bridge--A structure carrying a pathway or roadway over a body of water;

8. Causeway--An elevated or raised way across wet ground or water;

9. Beach--A level stretch of pebbles or sand beside a body of water, often washed by high water;

10. Bank--A stretch of rising land at the edge of a body of water not washed by high water, which could be rocks or an overhanging cliff; and

11. Other - Any other non-boat fishing.

Head Boats and Charter Boats (PC)

1. Head boat--A boat on which fishing space and privileges are provided for a fee. The vessel is operated by a licensed captain (guide or skipper) and crew. In some areas of the country Head Boats are called party boats or open boats. These boats are usually not launched until a specified number of anglers have paid and boarded. Anglers on these full or half day trips usually do not know all of the other anglers on the boat. Head Boats usually carry more 7 or than people, and engage predominantly on bottom fishing.

   NOTE: In North Carolina, South Carolina, Georgia, East Florida, West Florida, Alabama, Mississippi, and Louisiana, this survey has not included head boat fishing since 1986. Southeast region Head Boats may be included in the 1999-2001 survey.

2. Charter Boat--A boat operating under charter for a specific price, time, etc. It is operated by a licensed captain and crew, and the participants are usually part of a pre-formed group. Thus, charters are usually closed parties, as opposed to the open status of party boats. These are sometimes called guide boats, especially small boats fishing inside waters with two to three clients. Charter boats generally carry 6 or fewer passengers and can engage in a full range of fishing techniques, including trolling, bottom fishing, and drift fishing.

NOTE: Both party and charter boats may make all-day or half-day trips.

Private and Rental Boats (PR)

1. Private Boat--A boat belonging to an individual. Private boat trips are any boat trip where no fee is paid for the use of the boat. Individuals may contribute to the cost of the trip (i.e. friends chipping in for gas), but there is no commercial transaction.

2. Rental Boat--A boat that is rented or leased. No captain or crew is provided--the renter operates the boat.

2.2.1.3 Fishing Site

Since the focus of this survey is on saltwater recreational finfishing, all sites should be discrete geographical areas from which saltwater recreational finfishing takes place. With the possible exception of some beach/bank sites, a fishing site should include not more than approximately 100 yards of coastline area. That is, one interviewer should be able to cover an entire site on foot in a reasonable amount of time. Some beach/bank sites can be larger than 100 yards, but boundaries should be clearly delineated in the description. A site does not have to be as large as 100 yards if smaller boundaries are appropriate.

A fishing site can have more than one mode of fishing. A docking area with both charter boats and private boats would be one site with both party/charter and private/rental fishing. If people occasionally fish from the dock itself, that site would also show shore fishing.

2.2.2 Sample Frame

2.2.2.1 Site Register

The actual sites to be sampled in the intercept survey are randomly selected according to fishing activity from a master list of all marine fishing locations in each State, called the Site Register. Attachment B includes the 1995 wave 1 Site Register for East Florida as an example. Beginning with 1990 sampling, the Site Register contains separate pressure estimates for each month within a wave.

Originally developed from secondary sources, the Site Register is continuously updated using feedback from intercept interviewers, field supervisors, and State fisheries personnel. The computerized Site Register contains fishing pressure information, that is, information concerning the relative use of the site in each month and in each of the three modes. This information is used in the selection process so that the more heavily used sites have a higher probability of selection.

Information provided about each site in the Site Register includes a two-digit State code, a three-digit county code, a six-digit latitude code (degrees, minutes and seconds), a six-digit longitude code (degrees, minutes and seconds), and a unique four-digit site code. These codes are followed by a description of the site and its location. Each site description must include the name of the nearest town, directions from a discrete starting point such as a recognizable landmark or intersection, and, if available, the name and phone number of a primary contact person who supervises the site.

The Site Register includes an estimate of the monthly weekday and weekend fishing pressure at each site for each mode and wave. Fishing pressure is a scaled value representing the average number of anglers using that site on a weekday or weekend day. (A key to the pressure information is found at the top of each page.) All sites with a scaled pressure value from "0" to "7", inclusive, are eligible for assignment. Sites are selected randomly with non-uniform probability based on angling pressure.

Sites are listed in numerical order by county. The sites are not in any geographical order. Sites are uniquely coded and they keep their same codes through time. For example, a marina that changes its name through new ownership will keep the same site code. Codes for deleted sites will not be reassigned. Each interviewer must be given a Site Register for his/her State(s) or county(s) of coverage. A new Site Register must be issued for each wave.

2.2.2.2 Updating Site Register

Since sites to be sampled are selected according to fishing pressure, it is imperative that the Site Register contain the best information possible. The Site Register is not static, since fishing activity is constantly changing. It must be updated at least once a wave based on information obtained from interviewers. Interviewers provide information to add sites, delete sites, or change the description of an existing site on the master Site Register. The Site Register must contain as much information as possible to help interviewers locate each site and sample it most productively. For example, names and telephone numbers are very useful for party/charter boat sites, as are the best times of day for sampling.

Interviewers are responsible for estimating fishing pressure during each visit to each site. They must estimate the average number of anglers using each site on a weekday and weekend day for each month of the year. Anecdotal information from marina operators, pier owners, etc. can be used in the estimation of fishing pressure. Newspaper and weekly magazine fishing reports also provide useful background information for adjustment of fishing pressures and adding and deleting sites.

Field supervisors must ensure that each site in the supervisor's area will be visited at least once a year for the purpose of updating the Site Register, regardless of whether or not that site was assigned during the year. Any site that contains a pressure of "8" (unknown) must be visited as soon as possible, so that a valid pressure ("0-7" or "9") can be assigned.

If more than one set of pressure estimates for a site are submitted by different interviewers, field supervisors must make the final determination of the "best" values to use in updating the Site Register. More weight should be placed on pressure estimates for waves during which sites were visited and empirical data was gathered, as opposed to pressures estimated almost a year in advance. Field supervisors should also consider the experience of interviewers submitting pressure estimates for the same site. Data from newer interviewers may not be as reliable as that from more experienced interviewers.

2.2.3 Sample Allocation

For the 1991 MRFSS, the MRFSS allocated 32,000 intercepts among Atlantic and Gulf States. In 1992, an enhancement increased the sample size to 56,000, with the increase occurring in the South Atlantic and Gulf regions. The 1996 allocation is expected to be similar to the 1993 year, but may be different. Intercepts are allocated among regions, States, modes and waves proportionate to fishing effort. The effort index used during 1993-1995 was a three year (1990-92) average of estimated coastal, non-coastal and non-resident trips by state. Effort indices from the shore mode were divided by three to allow more sampling in the two boat modes.

Within each State, a base level of intercepts was allocated for each unique wave and mode combination (cell) to assure that sufficient data were available to produce estimates. These base levels were 30 intercepts in the shore and private/rental boat modes and 45 intercepts in the party/charter boat mode. The higher base level in the party/charter boat mode was chosen to reduce the clustering effect for this mode which has a high proportion of group catches. Further allocations beyond this base level were proportional to the fishing effort index by mode and wave.

2.2.4 Site Assignment

The intercept data collection contractor must estimate the number of assignments needed to achieve the quota of interviews in each state/wave/mode. Historical interviewer productivity data should be used for this purpose. The estimated number of assignments needed to achieve the quota should be increased to allow for weather problems, interviewer unreliability and other unforseen difficulties.

It is possible to assign two sites to one interviewer on the same day dependent on MRFSS approval of a workable implementation plan. Of particular concern is the assurance that clustering effects in time and space would be minimized. A workable plan would impose limitations on the number of days with multiple assignments. Examples include: limiting multiple assignments to waves 1, 2 and 6; or setting a maximum percentage of days with multiple assignments per state and mode for each wave.

There must be regular communication and coordination by field and project supervisors with State fishery agency and NMFS regional personnel. Some adjustment of sampling assignments may be necessary to prevent MRFSS and other NMFS and State samplers from working at the same site at the same time.

At the time the sites are selected, they are randomly assigned to a date within the wave. Since more recreational fishing takes place on weekend days, more of the assignments are given to these days. For the purposes of the MRFSS, weekend days are defined as Saturday, Sunday, and the dates on which the Federal government celebrates the holidays of New Year's Day, Martin Luther King Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day and Christmas Day. The required ratio of weekend to weekday intercepts is 60:40. Actual assignments may differ from this 60:40 ratio because of different interviewer productivity between weekend and weekday days.

Sites must be assigned throughout each wave and throughout months within waves on the basis of monthly pressure estimates. This requirement is intended to prevent the quota from being met and sampling cease early in the wave or all sampling be clustered at the first of a month. Fishing pressure estimates for most sites and modes are equal for both months of each wave, however, there are waves in certain States and modes that are transitional in terms of fishing activity. For example, boat fishing activity typically ceases in late November in Virginia. Therefore an even allocation of sampling throughout wave 6 would result in wasted effort in December.

2.2.5 Alternate Site Selection

There may be occasions when it is not feasible to obtain 20 interviews in the assigned mode at the assigned site. When this occurs the interviewer will have to travel to alternate sites. These can be identified by checking the Site Register. The following rules apply when selecting alternate sites:

1. Any alternate site(s) selected must be in the same State and mode, and must be the nearest to the assigned site, but not further than a one hour drive.

2. Alternate site(s) must have fishing activity in the assigned mode. "Fishing activity" means that the site would be expected to have one or more anglers in the assigned mode on a typical weekend day during the wave (i.e., a "pressure" estimate of "0" to "7" on the site register).

3. Only two alternate sites (or a total of three sites) may be visited on one assignment.

4. If the assigned site for a shore (SH) assignment is a beach, bank or natural shoreline, then any alternate site(s) visited must also be a beach, bank or natural shoreline area. Interviewers cannot select a pier, bridge, jetty or other man-made structure as an alternate site in this situation. The reverse is not true, however. If the assigned site is a man-made structure, then interviewers may select any shore site, including a beach or bank site, as an alternate site.

The restrictions on selecting alternate sites prevent interviewers from continually visiting the same highly productive sites as alternates.

The interviewer must use his/her own judgment to decide when alternate sites should be visited. Some examples of when it would be appropriate to search for alternate sites are:

1. If there is no fishing activity (no anglers at a shore site or no boat trailers at a boat ramp) in the assigned mode at the assigned site.

2. If fishing activity is low and a preliminary canvass shows that it will be quite a while before any anglers will be finished for the day.

3. Anytime the interviewer has reason to believe that at least one interview per on-site hour cannot be obtained.

It is not necessary to obtain all the interviews at one site. If three sites are visited, interviews may be conducted at any or all of these sites. In addition, interviewers may return to previously visited sites at any time if they have information from local anglers or marina operators that eligible anglers will be present later in the day. It is important, however, that the site code recorded on the interview form be for the site where the interview was **actually** conducted (not necessarily the code for the **assigned** site).

As long as the interviewer has reason to believe that there might be fishing activity in the assigned mode within a one hour drive of the assigned site, any alternate site(s) visited must have estimated fishing pressure in the assigned mode. If, after visiting the assigned site and one alternate site, the interviewer determines that there is no fishing activity in the assigned mode on that day within a one hour drive of the assigned site, the interviewer may interview in an alternate mode. If possible, interviewing in the alternate mode should take place at one of the previously visited sites. If those sites do not have an alternate mode, the interviewer can select the second alternate site (or third site) with an alternate mode in mind (see Section 2.3.1.4).

There may be occasions when the interviewer will be unable to locate the assigned site. When this happens the interviewer should select an alternate site as close as possible to where the assigned site was thought to be located. This site would be treated as a starting site, and up to two alternate sites may still be visited. The interviewer must contact his/her field supervisor afterwards to attempt to locate the site and include better descriptive information in the Site Register.

All assigned sites will be on the Site Register. New sites discovered by interviewers should be added to the master Site Register as soon as they are discovered. A new site may be used as an alternate even if it has not yet been added to the Site Register, as long as that site is in the same mode and is the nearest in location to the assigned site. Interviews conducted at new sites would be sent in without site codes, but with the site description written out in the white space on the intercept form. A Site Description Form must also be completed and sent in with the intercept forms. Field supervisors will assign codes for these new sites and they must be added to the Site Register. In addition to discovering new sites by accident, interviewers and field supervisors should maintain contacts with local anglers, residents, State fisheries personnel, NMFS regional personnel, marina operators, bait stand owners, etc. in order to learn when new sites are planned or established. State agencies must use 10% of Sport Fish Restoration Funds (Wallop-Breaux funds) for boating access and safety programs; state personnel in charge of these programs would be valuable contacts.

2.3 Intercept Data Collection

2.3.1 On-Site Procedures

2.3.1.1 Interview Goals

For each assignment the primary goal is to obtain 20 "good" interviews in the assigned mode. "Good" interviews are interviews in which all **key** data are obtained. **Key** data that must be coded include: fishing mode; water fished; three/ten mile limit for ocean fishing; state and county of residence; were fish caught that are available for inspection; was the catch mixed; can catch be separated; number of anglers who caught aggregated fish (group catches); species code; species, number of fish and in most cases disposition of the catch for inspected fish; species, number of fish and disposition of unavailable catch by angler; type 4 record data that links an interview with for interview that has the group catch records; was the angler a member of a group; and Type 6 record data that links the interview to the first angler in a party to be interviewed.

Note: In the Southeast, the limit of "good" interviews allowed at a site has been increased to 30 in the Private/Rental and Shore modes.

On most assignments 20 "good" interviews is the maximum number that can be obtained in any one mode. The only exception would be head boat interviewing when the interviewer has boarded a head boat. In this case, there is no limit to the number of interviews possible. While interviewing on Head Boats, the goal is to get **at least** 20 "good" interviews.

Another goal is to ensure that at least two coastal residents are interviewed in each State/wave/mode (cell). It is not possible to adequately expand the intercept data unless this requirement is fulfilled. Toward the end of the wave, if no coastal residents have been intercepted in a particular state and mode, roving assignments can be attempted. Interviewers on roving assignments can conduct interviews at any site within the State and mode of concern until two coastal residents have been successfully interviewed; however, all anglers intercepted must still be interviewed regardless of residence. **Screening only for coastal county residents should not occur.**

2.3.1.2 Advance Work

Each assignment specifies an assigned mode, an assigned county, an assigned (starting) site, and an assigned date. No starting time will be specified. It is up to each interviewer to select an appropriate starting time for the assignment. This should be done with the knowledge that anglers must be interviewed at the completion of their fishing trips.

The time of day selected for sampling should reflect daily fishing activity. For example, if anglers typically use a shore fishing site at high tide only, then that should be the time of day for sampling. Also, if night fishing pressure is high (i.e., on a lighted pier), then some sampling should be done at night. Most anglers return to boat launching and mooring areas in mid- to late afternoon, so this is generally the best time to sample these sites.

Interviewers should gather intelligence information on fishing activity to aid in their sampling productivity. Newspaper and weekly magazine fishing reports are useful in monitoring activity and the seasonal opening and closing of fishing piers, marinas, party/charter operations, etc. State and NMFS regional personnel also may be a good source of information. These intelligence activities are particularly useful during the winter waves when fishing pressure is low and the information can be beneficial in the selection of alternate sampling sites.

The interviewer must start his/her assignment at the assigned site. When possible the interviewer should do some advance checking with the person in charge at that site before going on an assignment. This is especially true for assignments at private marinas, boat rental locations, head boat docks and the like where it is important to know the hours of operation. A contact name and phone number will be provided on the site register whenever possible. When phone numbers are not provided, the interviewer should use his/her phone directory to find a listing for the site. Since telephone numbers change, any revisions should be noted to update the site register. The same is true if a phone number that is missing on the site register is obtained.

Upon arriving at the site the interviewer should first check in with the person in charge (or the person previously contacted). Many sites, especially public beaches, will have no such person, but privately-owned or closely supervised public operations will have a manager in charge. Both for permission and as a courtesy, the interviewer should introduce himself/herself and give a summary of the purpose of the survey. Copies of a letter from NMFS (Attachment C) are provided to substantiate the legitimacy of the survey and encourage cooperation. These should be given out as needed.

2.3.1.3 Mode-Specific Procedures

The on-site procedures differ slightly for each mode of fishing. The following subsections describe the typical procedures for each mode.

2.3.1.3.1 Shore

If the interviewer is assigned to a pier, jetty or bridge, the interviewer should be stationed at a point of access (entry-exit) to the site. The station should be such that all anglers leaving the site can be easily seen and approached. It should **not** be next to a fish cleaning stand, since usually only anglers with fish will stop at the stand. If all anglers are actively engaged in fishing, the interviewer should canvass the structure to inform them about the survey, solicit their cooperation, and point out where the interviewer will be stationed.

When a beach or bank site is assigned, the interviewer will typically have to cover a rather extensive stretch of coast fished by scattered clusters of anglers or solitary anglers at remote spots. If there is a predominant point of egress from the site (e.g., a central parking facility), the interviewer should stand there. If no such point exists, the interviewer should stand such that the majority of anglers are within sight and easily accessible. Close observation of the fishing activity is required since the interviewer must be alert to anglers leaving the site.

A preliminary canvass to determine the number and location of anglers on-site and a rough approximation of the duration of their trips has been a useful tactic in previous years. With this information the interviewer is able to maximize intercept coverage by planning his/her movements around those of the respondents. The preliminary canvass should also be used to inform the anglers about the study and gain consent to conduct the interview.

If no suitable observation spot can be found and the anglers' completion times can not be determined, a roving method is often suitable, with concentration on the stretches where the most anglers are present.

2.3.1.3.2 Head Boats and Charter Boats

NOTE: In North Carolina, South Carolina, Georgia, East Florida, West Florida, Alabama, Mississippi, and Louisiana, head boat anglers are not eligible to be interviewed. In these states, only interviews with charter boat anglers are allowed in the Party/Charter mode.

<u>Head boat-Only Sites</u>: At head boat-only sites it is often difficult to obtain 20 "good" interviews by staying on the dock. This is because of the large number of anglers from each boat completing their trips at the same time. The ability to get 20 interviews will depend on how many Head Boats are located at the same site and the schedules of those Head Boats. If an interviewer does not think that 20 "good" interviews can be obtained by staying on the dock, the interviewer must consider going on a head boat. If a fishing site has boats taking ½ day trips (dock to dock: less than 7 hours) as well as 3/4 or full day trips (dock to dock: 7 to 12 hours), interviewers should sample these boats in proportion to their occurrence and frequency of trips. Interviewers should usually not board a head boat with fewer than 20 anglers, but there may be occasions when this is necessary to meet quotas, particularly during winter waves. Another reason to board Head Boats would be if the interviewer has knowledge that most of the fish are filleted at sea and could not be identified to the species level by interviewing at the dock.

Prior to boarding, the head boat operator should be informed about the survey. In some cases the operator will allow the interviewer free or reduced-price boarding privileges, but generally the interviewer will have to purchase a ticket as if going to fish. If possible, reservations should be made well in advance of the trip since Head Boats are often full.

Once on board, the interviewer should introduce him/herself and the survey to the boat captain. Good rapport with the captain will often result in increased cooperation of the head boat patrons. Canvassing introductions should begin as soon as the boat leaves the dock and continue until all the anglers are aware of the survey.

On Head Boats it is permissible to conduct partial interviews prior to trip completion. The interviewer can work through the interview up to Item 28, concerning catch, with the exception of Item 12, area fished, and Item 17, time spent fishing. Since each angler's name will be on his/her form, the interviewer can go back to each angler and get the remaining information as trips are completed. As with all other modes, interviewers on Head Boats are not allowed to fish.

Final interviewing should begin as soon as the anglers have completed their fishing and the boat begins the return to the dock. When conducting head boat interviews on board there is no limit on the number of interviews to conduct. The emphasis is to get **at least** 20 "good" interviews. Under optimum circumstances all anglers on the boat will be interviewed. Some form of subsampling may be necessary, however, if the boat holds a large number of anglers or if the time required for travel back to the dock is minimal. While times vary, an interview and creel inspection require approximately ten minutes. The interviewer should approximate the number of interviews that can be conducted, and then systematically sample from the total number of anglers on the boat. For example, if only 15 interviews can be conducted and the boat is carrying 45 anglers, every third angler should be interviewed. Under no conditions should the interviewer just approach the more friendly anglers. The sample **must be systematically conducted with a random selected starting angler!**

<u>Head boat and Charter Boat Sites</u>: In some cases the assigned site will have both Head Boats and charter boats. In such cases, the interviewer will have to use his/her judgment concerning head boat boarding. If it is possible to obtain 20 "good" interviews while stationed on the dock, the interviewer should stay at the dock. This, of course, is a function of how many boats have departed from the site and their expected times of return. If only a small number of boats have departed or if all boats will return at the same time, the interviewer might not be able to obtain 20 "good" interviews and should board a head boat.

Interviewers should attempt to sample Head Boats and charter boats at these sites in proportion to their activity. If the interviewer rides a head boat on one assignment, it would be appropriate to stay at the dock and sample charter boats along with some head boat patrons on the next assignment at that site.

<u>Charter Boat-Only Sites</u>: Interviewers should never go on a charter boat. Intercept procedures for charter boats resemble those for private and rental boats (see Section 2.3.1.3.3). With charter boat sites, however, it is well worth the effort to call the site or charter boat captains in advance to find out the boats' schedules. With this information, the interviewer can plan to arrive at the

dock just prior to the scheduled returns.

Interviewers should strive to complete individual interviews and catch records for each member of the charter group. However, this may be difficult for charter boats, since anglers often have little control over the handling of their fish, which are often stored together. Under no circumstances can interviews be conducted with charter captains or mates. Captains and mates may be consulted to determine the actual water area fished.

2.3.1.3.3 Private and Rental Boats

Because there are large differences between one boat landing/docking facility and another, the best procedure for a particular site must be determined by the interviewer. For private boat interviews the anglers might be interviewed while waiting for a boat hoist or while cleaning the boat at a dock. Others might be interviewed in the parking lot while waiting for access to a ramp to remove the boat from the water. Often the offer of assistance to the boat operator in handling a boat line or loading the boat onto a trailer is a good way to obtain cooperation for the interview. The interviewer will have to use discretion in determining the best approach.

Ideally, all anglers in a boat will be interviewed; however, circumstances may be such that this is not possible. Once an interviewer approaches a boat, the interviewer should attempt to interview each angler in the boat. If there are many boats returning at once, a non-biased method of subsampling is needed whereby every second or third boat is approached.

As with the shore (SH) mode, an interviewer should never stand next to a fish cleaning stand. Usually only anglers catching fish will stop at the stand, and the sample will be biased toward anglers with catch. An angler does not have to have caught or to have kept fish to be eligible for the interview.

2.3.1.4 Interviewing in Other Modes

It is possible to conduct interviews in modes other than the assigned mode. Interviews in other modes should be conducted during nonproductive time spent while waiting to interview in the assigned mode. For example, if the assigned mode is private/rental boat (PR) and the interviewer is waiting for boats to return, the interviewer should interview any dock anglers (SH) who might be completing their trips.

Also, if an interviewer obtains 20 "good" interviews in his/her assigned mode relatively quickly, the inetrviewer should begin to focus on alternate modes for the remainder of the day. Alternate sites may be visited, if necessary, but in no case should the total number of sites visited during the assignment exceed three.

Finally, an interviewer can interview in a mode other than the assigned mode if the interviewer has already started an assignment and determines that the assigned mode is not active within a one hour drive of the assigned site. Such a determination should be made only after visiting the assigned site and at least one alternate site for the assigned mode. If there are no other sites within a one hour drive that are in the same mode as the assigned site, a visit to the assigned site would be enough and interviewing in another mode could begin. If an interviewer has reason to believe that the mode would not be active within a one hour drive of the assigned site **prior** to going out on the assignment, the interviewer should postpone the assignment and inform the field supervisor of the postponement.

In summary, interviews in other than the assigned mode should be obtained during **nonproductive** time, **after** the assignment goal has been met, or **after** determining that the assigned mode is not active in the interviewer's sampling area on the assigned day. In addition, no more than 20 "good" interviews should be obtained in any one alternate mode. In other words, if an interviewer manages to conduct interviews in all three modes, the interviewer should turn in no more than 60 "good" interviews (except where the PC mode was the assigned mode and more than 20 head boat anglers were interviewed).

2.3.1.5 Tournaments

For the purposes of this survey, a tournament is defined as a fishing contest lasting seven or fewer days for which participants have to register. Prizes are given according to the rules of the contest--most, biggest, etc. Informal "pools", such as those arranged on Head Boats, are not considered tournaments. Anglers would have ridden the head boat whether or not there was a pool.

Tournaments are not specifically sampled in this survey. Assigned sites and dates are randomly selected without regard to what might be happening at the site. If an assigned site turns out to be the official weigh station for a tournament, the interviewer should **not** interview at the site. The interviewer should document that a tournament was taking place at the assigned site and that the interviewer moved to an alternate site. The same rule also applies to alternate sites. The "tournament" site does not have to be counted as a site visited in terms of the maximum of three sites for an assignment. In other words, an interviewer can go to more than three sites if one or more of the sites is an official weigh station for a tournament.

2.3.1.6 Weather

Interviewers should not attempt an assignment if the weather is such that there will be no anglers. For example, if there are small craft warnings, interviewers should not go out on a boat assignment. There may be shore fishing activity even though boats are not active. If an assignment is "weathered out" the interviewer should call the field supervisor as soon as possible so that the assignment can be rescheduled.

2.3.2 Screening Procedures

2.3.2.1 Angler Eligibility

To be eligible for an interview an angler must:

1. be a saltwater recreational angler who intended to catch finfish, or a shellfisher who has incidentally caught finfish;

2. have completed his/her fishing trip, defined as one waking day of fishing in one mode; and

3. have fished in U.S. waters.

All such persons, five years of age or older, are eligible.

Determination of Saltwater - All sites assigned will be known saltwater fishing sites, so in most cases all anglers encountered will be saltwater anglers. In estuarine areas, however, a definition of saltwater is often difficult. Inland saltwater bodies include sounds, passes, inlets, bays, estuaries, tidal portions of rivers, and other areas of salt or brackish water like bayous and canals. Some coastal water bodies are called lakes but should still be considered saltwater (e.g., Lake Pontchartrain in Louisiana). However, high salinity non-coastal lakes like the Salton Sea in Southern California are not valid marine recreational fishing areas. At sites where both freshwater and saltwater fishing occur, the interviewer must ask each angler whether they were freshwater or saltwater fishing. Persons who consider themselves to be freshwater anglers are not eligible for the survey and should not be interviewed.

Determination of Recreational - For this survey, a recreational fishing trip is one that is taken for fun or relaxation as opposed to one taken to provide income from the sale of fish. The purpose of the trip at the beginning of the day defines the trip. Anglers who sell their catch to cover the expense of their fishing trips are not necessarily fishing to provide income. These anglers would be eligible. A commercial fisher might have a bad day and think about changing the purpose of the trip. If the fisher started the trip with the purpose of providing income from the sale of fish, the fisher is not a recreational angler and should not be interviewed.

Determination of targeting finfish or incidental catch by shellfishers - The angler's actual catch has no effect at all on his/her eligibility. If the angler has thrown fish back or did not catch anything at all, the angler would still be eligible for an interview as long as there was intent to catch finfish. Generally, respondents pursuing crabs, shrimp, lobster, clams, oysters, and other invertebrates are not eligible for the survey; however, if they happened to catch a finfish (whether it was kept or not) during the fishing trip, the respondent should be interviewed.

Determination of a completed trip - For the most part, interviewers will be intercepting anglers who have completed their fishing trips. An angler has completed the fishing trip if that angler has completed fishing in that mode for the day. If a angler is moving from one site to another site in the same mode (e.g., from a dock to a bridge), that angler has not completed the trip and is not eligible for an interview. If an angler is moving from one mode to another mode (e.g., from a dock to a boat) at either the same site or different sites, that angler has completed a trip and is eligible to be interviewed about that trip. If an intercepted angler has completed two trips, having fished in two different modes, the interviewer should ask questions pertaining only to the most recently finished trip.

Only anglers making **one-day** trips are eligible. One-day refers to the angler's waking day, as opposed to a calendar day. A trip beginning in the evening but ending past midnight would be considered one trip. When an interviewer intercepts an angler who has been on a trip lasting several days, most likely a boat trip, each of the angler's waking days would be considered a separate trip. The interview should be conducted considering only the most recent waking day of fishing. If the angler's waking day was more than 24 hours, only the most recent 24 hours should be considered.

<u>Determination of U.S. waters</u> - At some boat access sites interviewers may encounter anglers who spent the majority of their fishing effort in foreign waters. If the interviewer is at a boat site where fishing in foreign waters is possible, the interviewer must ask: "Was most of your fishing effort in foreign waters?" An affirmative response would make the angler ineligible for the survey. Only anglers fishing in U.S. waters are eligible to be interviewed.

2.3.2.2 Canvassing Introduction

At some sites it is possible and advisable to build rapport with the people fishing prior to conducting any interviews. Anglers who have had the opportunity to meet the interviewer and discuss the survey tend to be more cooperative when asked for an interview at the end of a fishing trip. A key factor in gaining the respondent's initial cooperation and confidence in the study lies in assuring the respondent that the interviewer is not part of any enforcement effort and briefly informing the respondent about the basic research nature of the survey. When explicitly given the purpose and scope of the survey very early in the introduction, the initial reluctance and misgivings usually dissolve and the interview will proceed in an atmosphere of confidence and cooperation.

The canvassing introduction is a useful tool for the interviewer to determine the most productive time and place to conduct interviews. By determining in advance the estimated times that individuals anticipate their fishing trips will be completed, the interviewer can decide whether or when it will be necessary to visit alternate sites.

The canvassing process should be very informal and as unobtrusive as possible. The conversation might begin with "Catch anything?" or "How's the fishing?" The interviewer must avoid any actions or statements which would disrupt the angler's normal fishing habits.

While canvassing, the interviewer might mention the desire to identify, weigh, and measure the fish caught. This alone often provides an incentive for the interview. Also, the interviewer might begin to look at the fish being caught so that identification time is kept to a minimum during the interview. If deemed appropriate, the interviewer might also suggest that each angler keep his/her catch separated.

2.3.2.3 Screening Introduction

The Screening Introduction (Attachment D) serves two major purposes: 1) to introduce the interviewer and the survey, and 2) to determine if the angler is eligible for an interview. While each interviewer will be given several copies of the Screening Introduction, it should not be needed on a routine basis if the interviewer fully understands the study background and eligibility requirements.

All anglers approached should be told the interviewer's name and that the study is sponsored by the National Marine Fisheries Service. At no time should an interviewer claim to be an employee of NMFS. If the angler is willing to cooperate, the interviewer would then ask the eligibility questions. The item-by-item instructions for the Screening Introduction are as follows:

Item 1 - This question is necessary to determine whether the angler meets the recreational criteria. A "to provide income" response to the question would end the screening because the respondent is not a recreational angler . A "recreational" response to Item 1 would lead to Item 2. In some States an angler may be "commercial" or "recreational" on any given day. Interviewers must ask about the trip just completed, regardless of the type of fishing license possessed.

Item 2 - The purpose of this question is to verify that the angler is a saltwater angler. A angler is a saltwater angler if he/she thinks he/she is a saltwater angler . A "no" response to Item 2 would end the screening. A "yes" response would lead to Item 3.

Item 3 - The purpose of this question is to verify that the person is targeting finfish. That is, his/her fishing trip was directed at fish with fins. A "yes" response to Item 3 would lead to Item 4. Note that a person does not have to have caught any finfish. An angler must only have been fishing for finfish. A "no" response to Item 3 would lead to Item 3a.

Item 3a -The purpose of this item is to identify shellfishers who caught one or more finfish. A "no" here would lead to termination of the screening. A "yes" would lead to Item 4.

Item 4 - All marine recreational anglers who intended to catch finfish are asked whether they have completed their fishing for the day. If the response is "yes", the interviewer would move to the Intercept Questionnaire. If the response is "no", the interviewer would continue by asking Item 5.

Item 5 - All anglers who have not completed their fishing for the day are asked where they plan to fish next. If the angler is going somewhere else to fish, the interviewer would continue by asking Item 6. If the angler plans to return to the site to continue fishing in the same mode, that angler has not finished in the mode for the day and is not eligible for an interview at that point in time (see Item 16 in Section 2.3.3.3 for beach/bank mode exceptions to this rule). In this case, the interviewer would terminate the screening. If there is more than one mode of fishing at the site, the interviewer should verify that the angler is returning to fish in the same mode. If the angler is changing modes upon return, that angler would be eligible to be interviewed about the fishing trip in the mode just completed.

Item 6 - Anglers who reply that they are going somewhere else to fish (Item 5) are asked if they will be fishing in the same mode. If the response is "yes", the angler would not be eligible for an interview because that angler has not finished in the mode for the day. In this case, the interviewer should terminate the screening. If the response is "no", the angler has finished his/her fishing in the intercepted mode and would be eligible for an interview. The interviewer should then go to the Intercept Questionnaire.

2.3.2.4 Privacy Act Statement

As soon as the angler's eligibility is established, the interviewer should read the Privacy Act statement. This statement appears on the Intercept Questionnaire just above Item 11. While this rather short statement will be read to all anglers, each interviewer will be given and must carry several copies of a longer Privacy Act Statement (Attachment E) giving more complete information about the survey.

All surveys conducted by the federal government are regulated by the Privacy Act of 1974. This Act stipulates that each person interviewed must be informed of the following: the auspices under which the survey is being conducted; whether participation is voluntary or mandatory; what will happen if they choose not to participate; and how the information will be used. The Privacy Act also stipulates that this information must be available to each survey respondent in written form. While this information does appear on the longer, written Privacy Act Statement, most anglers are satisfied with the reading of the abbreviated statement.

2.3.3 Intercept Survey Instrument

2.3.3.1 General Instructions

The actual interview begins after eligibility is established and the Privacy Act statement is read. Copies of the 1992 Intercept Questionnaires for the Atlantic and Gulf coasts are included in Attachment F. Included in Attachment G are some completed Coding Forms for illustration. Below are general instructions concerning the interview.

1. Wording - The questions to be put to the angler are written out in full for a purpose. Methodological studies have shown that even slight changes in wording, for example, "should" versus "could", drastically influence item response. The interviewer should always read each item on the Intercept Questionnaire exactly as it is written.

2. Provide Definitions, Not Answers - If the angler asks for the interviewer's opinion about an item, the interviewer should provide a definition for the item in question, rather than supply the actual response. For example, if the angler is unsure about whether he was fishing from a head boat or a charter boat (Item 11), the interviewer should explain the difference and let the angler decide.

3. Codes for Not Applicable Questions - As a general rule, items on the Intercept Questionnaire that are not applicable to a particular angler (i.e., items falling out in skip patterns) are coded with "8"'s, as indicated on the Intercept Questionnaire.

4. Codes for Refused Questions - Items on the Intercept Questionnaire that are refused are coded with "9"'s. If the angler refuses a key item (an item with an asterisk on the Intercept Questionnaire and Coding Form), the interviewer should code the item with "9"'s and terminate the interview. If the angler refuses a non-key item (an item without an asterisk on the Intercept Questionnaire and Coding Form), the interviewer should code the item with "9"'s and continue with the next question.

5. Codes for Don't Know - Items on the Intercept Questionnaire that the angler does not know the answer to are coded with "9"'s and a last digit of "8".

6. Right Justify and Add Leading Zeros - If a data entry does not require use of all boxes provided, the interviewer should right justify the entry and add leading zeros. For example, if a fish measures 262 mm, the entry, given four coding boxes, should be "0262".

7. "Other (SPECIFY)" - At Items 11, 13, 17, 32 and 33 the response codes are not exhaustive. At these items there are codes designated "Other (SPECIFY)". If an angler gives a response not covered by the pre-coded responses, the interviewer should enter the "other" code and write out the angler's exact response next to the coding boxes.

8. Notes/Footnotes - For some items, footnotes will be required under some conditions. Examples are: if weight and/or length measurements are missing at Item 33; if a site code is needed at Item 9; if a state and/or county code is needed at Item 21; or if a species code is needed at Item 15, 32 or 33. In such cases the interviewer should place an asterisk (*) by the item and provide a footnote explaining the situation near the bottom of the Coding Form.

9. Best Use of Time - There will be times during the day when the interviewer will

seemingly have little to do. This time can be used to fill in the identifying information (Items 3-4 and 7-9) on forms that will be used later at the site. This time can also be spent reviewing, editing and "cleaning up" completed Coding Forms.

2.3.3.2 Key Items

Several data items are critical to the data expansion routines and are termed key items. If a response to any of the key items is missing, then the interview is not valid. Key items have Bold print in the following instructions and have asterisks next to the Item number on the 1995 Intercept Questionnaires and Coding Forms. Key items include mode and area of fishing; distance from shore; state and county of residence; group catch questions; catch disposition, number, length and weight of catch by species; and party information.

2.3.3.3 Item-by-Item Instructions

These instructions apply to the 1995 Intercept Questionnaires (Attachment F). Some change in data items should be expected from year-to-year.

Items 1-10 are not questions to be asked of the angler. They are identifying information.

Item 1 Record Type - "1" is preprinted on the Coding Form.

Item 2 Assignment No. - "1" is preprinted on the Coding Form. The instructions read: "Enter "1" if first assignment for day; "2" if second assignment for day." It is possible for one interviewer to be given two assignments in the same day. If an interviewer does two assignments in the same day, the interviewer should overwrite the pre-coded "1" with a "2" on all Coding Forms submitted for the second assignment.

Item 3 Interviewer Code - Each interviewer will be given a unique four-digit identification number. This number must be used on all submitted forms.

Item 4 Year/Month/Day - The interviewer should record the date of the intercept. Two digits each for the month and date should be used.

Item 5 Interview Number - Throughout an assignment the interviewer should consecutively number the forms completed for the assignment. The first form used should be coded "01", the second "02", etc. All forms sent in should be numbered, regardless of interview status. At the end of the assignment the last number used should be the same as the number of forms submitted.

Item 6 Hour - Using military time, the interviewer should record the time the interview was completed. Military time runs on a 24-hour clock starting at 0001 hours (one minute past midnight) and ending at 2400 hours (midnight). For example, 4:45 p.m. should be coded "1645" hours.

Item 7 State - The interviewer should enter the two-digit FIPS numerical code for the State of intercept (Attachment H).

Item 8 County - The interviewer should enter the three-digit FIPS numerical code for the county of intercept (Attachment H.)

Item 9 Site - The interviewer should enter the four-digit numerical code for the site where the interview takes place. This will not necessarily be the assigned site. Site codes and names are unique and are found in the Site Register. If the interview takes place at a newly discovered site not listed on the Site Register, the interviewer should write the name of the site next to the coding boxes and leave the boxes blank, and would also fill out a Site Description Form.

Item 10 Interview Status - This item must be completed at the end of the interview. It serves as an indicator of interview "completeness". Interviews of status "1" or "2" are "good" interviews in that all **key** data have been obtained. Status "1" and "2" interviews do count toward the interviewing goal of 20 interviews. Interviews of status "3", "4" and "5" do **not** count toward the interviewing goal of 20 interviews.

"Questionnaire complete = 1" - This code should be used if the angler responds to all items asked in the interview. In other words, the angler does not refuse to answer any question.

"Refused non-key items = 2" - This code should be used if the angler refuses one or more non-key items but answers all key items. If a angler refuses a non-key item, the interviewer should code "9"'s in the coding boxes at that item and continue with the next question.

"Initial refusal = 3" - This code should be used if an eligible angler refuses to be interviewed. Anglers who refuse to be interviewed will usually claim that they do not have time to participate. The interviewer should always attempt to determine eligibility. If the angler is not eligible (i.e., that angler has not completed fishing in the mode for the day), a form should not be started for the angler. If the angler is eligible or if eligibility is undetermined, a form should be started for the angler. The interviewer should complete the form through Item 10 and submit it with the other forms for the assignment. Status "3" forms do not count toward the goal of 20 "good" interviews.

"Language barrier, etc. = 4" - This code should be used if the angler approached for an interview cannot respond to the interview and no other person with the angler is willing or able to translate. Such anglers would include non-English speaking anglers and deaf anglers. Conducting the interview in a language other than English is allowed as is using an interpreter for the interview. If these are not alternatives, a form should be completed through Item 10 and submitted with the other forms for the assignment. As with initial refusals, the interviewer should assume that "language barrier" anglers are eligible, unless information to the contrary is obtained. Status "4" forms do not count toward the goal of 20 "good" interviews.

"Refused key item = 5" - This code should be used if the angler refuses to answer a key item. If a key item is refused, the interviewer should code the item with "9"'s and terminate the interview. Status "5" forms do not count toward the goal of 20 "good" interviews.

Beginning with Item 11 are questions to be asked of the anglers. Boxed items on the Intercept Questionnaire are not asked, but are either instructions to the interviewer or items to be recorded by the interviewer. Key questions are indicated by bold item numbers.

Item 11 Fishing From Which Mode? - Interviewers must use discretion in the wording of this question for shore (SH) anglers. Obviously, if a angler is leaving a pier, from which no boat fishing was possible, it would be inappropriate to ask whether that angler was fishing from a charter boat. A pier angler should be asked: "Would you say you were fishing from a pier, a jetty, or what?" As much as possible, the interviewer should include in the stem of the question responses from at least two coding categories.

All head boat/charter boat (PC) and private/rental boat (PR) anglers should be offered all four boat alternatives: "Would you say you were fishing from a head boat, a charter boat, a private boat or a rental boat?" In all instances the interviewer should code the angler's actual response, whether it is technically right or wrong. If the angler has difficulty with the definition of a particular mode, the interviewer should provide definitions and let the angler decide.

On occasion, the angler will be unable to give a short answer to Item 11. That is, there might be extenuating circumstances that require a more detailed response. The following examples are illustrative of how these "detailed" responses should be handled:

IF THE ANGLER SAYS:	CODE:
"Bulkhead"	"2" Jetty, Breakwater, Breachway
"This used to be a bridge but it is now used as a fishing pier."	"1"-Pier
"I hired and fished from	"7"-Charter boat

a guide boat."	
"I boated to a pier/dock/ jetty/breakwater/breachway/ bridge/causeway, got out of the boat and fished from the pier/dock/jetty.../causeway."	"1", "2", "3" or "4"- Man-made structure
"I boated to an oil/gas platform, got out of the boat and fished from the oil/gas platform."	"4"-Other man-made structure and write "oil/gas platform"
"I boated to a beach/bank, got out of the boat and fished from the beach/bank."	"5"-Beach or bank
"I boated to a reef, got out of the boat and fished while standing on the reef."	"6", "7" or "8"- Code to type of boat used
"I boated to a barge, got out of the boat and fished from the barge."	"6"-Head boat

Item 12 Type of Water Fished? - Anglers are asked what type of "water body" they did most of their fishing in. The technically correct response should be coded at Item 13, instead of an obviously incorrect response from the respondent. For shore (SH) angler, it may not be necessary to ask the question. This would be true if the interviewer has observed the fishing and can code the correct water body. Similarly, if an interviewer has ridden on a head boat, the interviewer should code the correct response without asking the question. All other boat anglers will have to be asked the question, since boats can travel great distances.

If the angler responds with an answer other than "ocean/gulf", the interviewer will need to probe to determine the correct response. The follow-up probe is: "What (sound/river/bay/inlet) was that?" The response list for Item 12 contains estuaries that have been recognized by NMFS and EPA (Environmental Protection Agency) as "National Estuaries". If the named sound, river, bay or inlet is part of one of the estuaries on the list, the interviewer should code to the appropriate estuary. Maps showing the boundaries of each estuary are provided in the Attachment I. NMFS expects to add other estuaries in the future. If the named sound, river, bay or inlet is not part of a listed estuary, the interviewer should code "2" for sound, "3" for river, or "4" for bay. "Inlet" should be coded "5", with the word "inlet" written out in the white space adjacent to Item 12 on the Coding Form. "bayou" should be coded "5" with the word "bayou" written in the white space adjacent to Item 12.

If the angler fished in more than one "water body", that angler should be asked in which "water body" the majority of time fishing was spent.

"Open bays" are included with "ocean/gulf" in the "Open water" category (Code "1"). Open bays are not true bays but stretches of ocean that are called "Such-n-such" bay by local residents. An example would be "Cape Cod Bay".

If a "1" is coded at Item 12, the interviewer should continue with Item 13. If anything other than a "1" is coded at Item 12, the interviewer should code Item 13 with an "8" and continue with Item 14.

Item 13 Three or Ten Mile Limit? - This item is pertinent only to anglers fishing in "open water" (Code "1" at Item 12). If Item 13 is not pertinent, it should be coded with an "8".

Since anglers fishing in the shore (SH) mode must have fished within three miles of shore, there is no question to ask shore anglers. The interviewer should automatically code Item 13 with a "1" (three miles or less) and continue with Item 14. Anglers fishing in the boat modes (PC and PR), however, must be asked the "three or ten mile" question. The interviewer should enter at Item 13 the appropriate response code and continue with Item 14. This question is used to determine the effort and catch in State versus Federal jurisdictions. State jurisdiction occurs within the State territorial sea while Federal jurisdiction occurs in open waters beyond the territorial sea. Most States' territorial seas extend three miles from shore. The exceptions are West Florida and Texas where the territorial sea extends ten miles from shore.

States other than West Florida: If a boat angler (PC or PR) volunteers that the fishing occurred more than three miles from the continental coastline, but within three miles of a U.S. island coastline, the interviewer should code "1" (three miles or less).

West Florida only: If the boat angler volunteers that the fishing occurred more than 10 miles from the continental coastline, but within 10 miles of a U. S. island coastline, the interviewer should code "3" (ten miles or less). Interviews in West Florida should never have a "1" or "2" at Item 12.

Item 14 Target Species? - The interviewer should ask all anglers to name the kinds of fish they were fishing for. The interviewer should enter the name(s) of the fish on the line(s) provided above the coding boxes and look up the code(s) after the interview is completed.

If the angler says "no", "anything", or "nothing in particular", etc., the interviewer should write "no", "anything", or "nothing in particular" on the first line provided and **leave the coding boxes blank**.

If the angler mentions only one species, that angler should not be pressed for two. The species mentioned would be coded in the first set of boxes and the second set would be left blank. If the angler names two or more species, the interviewer should code only the first two mentioned.

The interviewer should note that identification of a particular **species** of fish is desired. If the angler names a family of fish, the interviewer should probe to determine whether he/she preferred a particular species in that family. For example, "Any particular kind of drum?" If the angler has no preference within the family of fish and several species are possible within that family, the interviewer should enter the family code. If, however, the interviewer knows that the angler could only be going after one species within that family, he/she should enter that species code. For this item, a knowledge of how local names translate to exact species is very important. If the angler uses a local name, the interviewer should also enter the accepted common name from the species list (Attachment J) for the species or family so that field supervisors can check the species code entered.

Interviewers should only record reasonable responses to this item. If a angler responds that he/she was fishing for a species not found in his/her area, this response should not be coded. For example, it is not reasonable that anyone would fish for oceanic pelagic species like blue marlin from an inland pier.

Item 15 <u>Gear?</u> - This question is asked of all anglers. If the angler has not primarily used "hook and line", the interviewer must ask the follow-up question concerning "gear type". If the angler has used more than one type of gear, he/she should be asked which he/she spent more time using. The angler's response would determine which code would be entered. Definitions for fishing gears are:

<u>Hook and Line</u> - Traditional rod and reel or hand lines. Trolling, surf fishing, bottom fishing, chum fishing and fishing with floats are all examples of uses of this gear.

<u>Dip Net</u> - A small hand net consisting of a handle attached to a metal ring with mesh attached, often used to land large fish but also used to catch schools of smaller fish. Examples of the use of this gear are to catch baitfish in tide pools or to catch herring during spawning runs upstream.

<u>Cast Net</u> - A large net, weighted around the edges, which is cast out and falls over the fish, thereby entrapping them. This gear is typically used to catch baitfish or shrimp.

<u>Gill Net</u> - A flat net suspended vertically in the water with meshes that allow the fish's head to enter the net but which catches on the fish's gills as it attempts to withdraw.

This is not a legal recreational gear in many states.

Seine - A large net with weights on one end and floats on the other used to enclose fish after dragging along the bottom near shore by hand. This gear is typically used to catch baitfish or shrimp.

Trawl - A large cone-shaped net which is dragged along the bottom from a boat. This is not a legal recreational gear in many states.

Trap - Usually a metal screen box, extended by a rope, which has bait inside and a small hole which the fish can swim into but not return. Examples are fish pots and crab traps.

Spear - A sharp, barbed pole that is projected or thrown into the fish. Examples are flounder gigs and SCUBA diving spears.

Hand - Catching fish by hand without the aid of any implements. Examples are picking up fish trapped in tide pools or chased up onto the beach by predators.

Item 16 Time Fishing? - All anglers are asked how many hours they spent fishing **with gear in the water** in the mode of intercept on the day of intercept. If the angler fished at more than one site in the mode group of intercept, he/she should be reminded to include all hours spent fishing in the mode at all sites. If the angler fished at a site in a different mode group, he/she should not include time spent fishing in the non-intercept mode.

Since a trip is defined as fishing in one mode in one waking day, it is waking day hours that should be entered. This should never exceed 24.0.

Interviewers should note that a box with a pre-coded decimal has been provided and that the question requires "to the nearest **half** hour". Only "0" or "5" should appear in the box to the right of the decimal.

Item 17 Additional Hours? - This question is used for beach/bank shore anglers who had not yet completed their fishing for the day. **Incomplete trips are allowed only for the beach/bank category** within the shore mode. **No more than 50%** of the beach/bank interviews obtained during any assignment may be incomplete trip interviews. A beach/bank angler must have completed **at least 1/3** of his/her trip to be eligible to an incomplete trip interview.

Item 18 Days in Past 12 Months? - All anglers are asked how many days they have been saltwater sport finfishing in the State of intercept or from a boat launched in the state of intercept, exclusive of the day of intercept, in the past 12 months.

The wording of this item is very important. The angler should think back to the same date in the previous year. He/she should **not** include days spent freshwater fishing, commercially fishing, shellfishing, or days spent fishing in other States.

The interviewer may have to work with a angler to come up with a specific number. Anglers are likely to say something like "every week" or "once a month". In these instances the interviewer should translate the response to a number and verify that number with the angler .

Since the question requires days and the day of intercept should not be included, the maximum acceptable entry would be "364", and the minimum acceptable entry would be "000". Codes "998" and "999" are provided for "don't know" and "refused", respectively.

Item 19 Days in Past 2 Months? - All anglers are asked the question at Item 19. While not written again here, the limitations that apply to Item 18 also apply to Item 19.

Since the question requires days and the day of intercept should not be included, the maximum acceptable entry would be something on the order of "59" or "60" and the minimum acceptable entry would be "00". Codes "98" and "99" are provided for "don't know" and "refused", respectively. Also, the entry at Item 21 should never exceed the entry at Item 20.

Item 20 Residence? - All anglers are asked their State and county of residence. If the angler does not know his/her county of residence, the interviewer should enter the city name and circle "city" on the Coding Form. In that instance, the coding boxes for county would be left blank. They would be completed later based on city name by field supervisors.

If the angler should ask, it is their legal residence that they should be reporting. Since this is not included in the question stem, interviewers should only provide this information if the respondent asks for clarification.

After interview completion, interviewers should code the response with the correct FIPS codes for State and county (Attachment H). If a angler is a resident of some country other than the United States, the appropriate country code (Attachment H) must be coded in the State position and "998" must be coded in the county position. If the interviewer is unsure of the correct code, he/she should write out the necessary information and leave the coding boxes blank for completion by field supervisors.

Item 21 ZIP Code? - All anglers are asked the ZIP Code of their residence. The ZIP Code given should be the ZIP Code of the residence named by State and county in Item 20. As before, if the angler should ask, it is their legal residence that is desired. If an angler is a resident of some country other than the United States, "99997" should be recorded.

Item 22 Type of Residence? - All anglers are asked what type of residence they live in. Single family homes and apartments are considered "private residences". Dorms, barracks, nursing homes, and rooming houses are considered "institutional housing units".

If the angler lives in a private residence, the interviewer should code Item 22 with a "1" and continue with Item 23.

If the angler lives in institutional housing, the interviewer should code Item 22 with a "2", code Item 23 with an "8", and continue with Item 24.

Item 23 Has Phone? - This question is pertinent only to anglers living in private residences (Code "1" at Item 22). If Item 23 is not pertinent, it should be coded with an "8".

The question is a "yes"/"no" question concerning home telephone ownership. The interviewer should code the angler's response and continue with Item 24.

Item 24 Age? - All anglers are asked how old they were on their last birthday. A code "98" is provided for "don't know", and a code "99" is provided for "refused". Persons 97 years of age and older should be coded "97". Since only persons five years of age or older are eligible, the lowest entry at Item 24 should be "05."

Item 25 Gender?: - This is not a question to be asked. Through observation the interviewer should determine whether the angler is a male (Code "1") or a female (Code "2").

Item 26 Name and Phone Provided? - All anglers are asked to give a full name and a telephone number for survey verification. Approximately ten percent of all anglers interviewed by each interviewer will be contacted for survey verification purposes. Names and phone numbers should be written on the line provided at Item 26. If the angler is a very young child, accompanied by an adult, the interviewer should also get the name of the adult.

It is not necessary to obtain the angler's home telephone number. Any number at which he/she can be reached is acceptable. However, if a work number is obtained, the interviewer should note that it is a work number so that validation attempts will be made during working hours. The interviewer should make sure that an area code is obtained.

To be entered in the box at Item 26 is a summary code indicating the type of information obtained. If the angler gives his/her name and phone number, the interviewer should enter a "1"; if the angler gives only name, only phone number, or neither, the interviewer should enter a "9."

Item 27 Were Fish Caught To Look At? - All anglers are asked whether they caught any fish in the mode of intercept that the interviewer might look at.

If the angler caught some fish that are available for inspection, but they have already been entered on another angler's form because they could not be separated, the interviewer should code Item 27 with a "3", code Items 30-32 with "8"'s, and continue with Item 33. This angler should have no data entered at available catch (Item 32), but would have an entry at the "Type 4" record (Item 33).

If the angler did not catch any fish available for inspection, the interviewer should code Item 27 with a "2", Items 28-30 with "8"'s, and continue with Item 31. This angler should have no data entered at either available catch (Item 32) or "Type 4" record (Item 33).

If the angler caught some fish that are available for inspection, the interviewer should code Item 27 with a "1" and continue with Item 28. This angler should have some data entered at available catch (Item 32).

The interviewer should note that the stem of Item 27 includes the words "to look at". Fish that have been filleted are not considered available "to look at". If it turns out that the angler's fish have all been filleted, the interviewer may have to go back and change the angler's response to Item 27. Filleted fish are entered at unavailable catch (Item 31), **not** at available catch (Item 32).

Item 28 Catch Mixed? - This question is asked only of those anglers who caught fish available for inspection and whose fish have not been entered on another angler's form (Code "1" at Item 27). If Item 28 is not asked, it should be coded with an "8".

If the angler caught all of the available fish, the interviewer should code Item 28 with a "1", code Item 29 with an "8", code Item 30 with an "88", and continue with Item 31.

If other anglers have contributed to the available catch, the interviewer should code Item 28 with a "2" and continue with Item 29.

Item 29 Separate Catch? - This question is asked only of those anglers who report that several anglers have contributed to their available catch (Code "2" at Item 28). If Item 29 is not asked, it should be coded with an "8".

If the angler can separate out his/her own available catch, the interviewer should code Item 29 with a "1", code Item 30 with an "88" and continue with Item 31. **Only the angler's own available catch should be entered at available catch (Item 32).**

If the angler cannot separate out his/her own available catch, the interviewer should code Item 29 with a "2" and continue with Item 30. **All of the available catch would then be entered on this angler's form at available catch (Item 32).**

Item 30 Number Who Caught Fish? - This question is asked only of those anglers who cannot separate their available fish from the available fish caught by others in their fishing party (Code "2" at Item 29). If Item 30 is not asked, it should be coded with an "88."

The angler is asked to indicate the number of anglers who contributed to the total available catch. He/she should not include anyone who did not catch any of the available fish. That person should be interviewed separately if he/she spent any time fishing. If he/she can not be interviewed separately, he/she should be counted as one of the anglers contributing to the total available catch. The interviewer should enter the number of anglers contributing to the catch. As stated above, all of the available catch would then be entered on this angler's form at Item 32. The other anglers would have Type 4 records that refer to this angler's form.

The table on the following page shows all five possible coding sequences for the series of questions 27-30.

The following are the five possible ways to code Items 27-30:

		Item	Code
1.	This angler has **no available catch.** He/She has not caught any fish that the interviewer can look at.	27 28 29 30	2 8 8 88
		"No Available Catch"	
2.	This angler has **available catch**. The angler has caught fish that the interviewer can look at, and the angler has **caught them all.**	27 28 29 30	1 1 8 88
		"Available Catch--All Caught by Angler "	
3.	This angler has **available catch**. He/She is part of a **group**. He/She **can not separate** his/her share of the catch. All of the group's Available Catch is listed on this angler's form.	27 28 29 30	1 2 2 02
		"Group Catch--Cannot Separate--1st Person"	
4.	This angler's **available catch** is part of a **group catch**. His/Her Available Catch has been **reported on someone else's form**. This angler would have a "Type 4" record.	27 28 29 30	3 8 8 88
		"Group Catch--Cannot Separate--2nd, 3rd, etc., Person"	
5.	This angler has **available catch**. He/She is part of a **group**. Each angler, though, **can separate** his/her share of the catch from that of the group.	27 28 29 30	1 2 1 88
		"Group Catch--Can Separate"	

Item 31 Unavailable Catch (Type 2 Records)? - All anglers are asked to report on fish caught in the mode that are not available for inspection. While available catch can be grouped on one angler's form, **each angler must report on his/her own unavailable catch in the mode of intercept**. If the angler was at a different site in the same mode, unavailable fish from the other site should be included.

Unavailable fish should be entered at Item 31 on the Coding Form. A separate line must be filled in for each unique species-disposition combination. Each line of information is called a "Type 2" record because of the "2" pre-coded on the Coding Form. Each "Type 2" record should contain a species name, a 10-digit species code (Attachment J), a disposition code, and the number of fish of that species and disposition.

Number of fish is a key item. Failure to obtain and enter disposition may also result in disqualifying the interview.

The question to ask concerning disposition is "What did you do or do you plan to do with the ________?" The interviewer may have to probe until the ultimate disposition of the fish is determined. The disposition codes can be found below Item 32 on the Intercept Questionnaire. They include: Thrown back alive - legal (Code "1"); thrown back alive - not legal (Code "2"); eaten - plan to eat (Code "3"); used for bait - plan to use for bat (Code "4"); sold - plan to sell (Code "5"); thrown back dead - plan to throw away (Code "6"); and plan to use for some other purpose (SPECIFY) (Code "7"). Legal and not legal in codes "1" and "2" refers to whether fish were released voluntarily, even though it would have been legal to retain them, or released because of bag limits, size limits, or any other regulation which would have made it illegal to retain the fish. Interviewers should note that they must write out the angler 's actual response if they use "7" since the response contains the word "SPECIFY". Dispositions "8" (don't know/ didn't ask) and "9" (refused) cannot be used for unavailable fish. There is no code for "given away". If the fish have been given away, the interviewer should ask what the recipient intends to do with the fish and code accordingly.

Usually, filleted fish should be considered "unavailable catch" and entered at Item 31. NMFS does not believe that an interviewer can look at a slab of meat and identify the fish to the species level; however, if enough of the carcass is left to allow for accurate species identification and an accurate count, the fish can be entered as "available catch" at Item 32. Anglers may think that fillets are available catch and not report them in response to the question at Item 31. If an interviewer should look at a angler's catch and discover that all of the fish have been filleted, it may be necessary to change the angler's responses to Items 27 - 30. The fillets would be entered as "Type 2" records, and there would be no "Type 3" records. If a group of anglers report a group catch consisting totally of fillets, the interviewer should strive to determine how many were caught by each angler. Fillets should be entered as "Type

2" records (unavailable catch), and each angler's own unavailable catch should be entered on his/her own form. If the group of anglers cannot separate their filleted catch, the interviewer should divide the total number of fillets by the total number of anglers contributing to the catch and give each angler his/her appropriate number of fillets. Interviewers should not assume that all fillets will be eaten. Even with fillets it is important to ask the question concerning disposition.

If one species is disposed of in two or more manners, it will be necessary to complete two or more "Type 2" records for the species. For example, if the angler caught a total of eight bluefish, five of which he/she threw back alive, and three of which he/she plans to eat, the interviewer should complete two "Type 2" records.

Species codes are required. Since unavailable catch cannot be inspected by the interviewer, it is recognized that the species and numbers reported may not be exact. Each interviewer should strive, however, to obtain species information. It is appropriate to show pictures in the field guide. If necessary, one of the "unidentified fish" codes may be used.

Three coding boxes are provided for "No. of Fish" in the "Type 2" record. As stated above, this would be the number of fish of the listed species-disposition combination caught by this angler. Since Item 31 is a key item, there are no "don't know" or "refused" codes reserved for "No. of fish". A number must be entered! (A 998 will be read as nine hundred ninety-eight!) If a angler has more than 999 unavailable fish of one species-disposition combination, the interviewer should write out the actual number in the available white space and put one of the following codes in the coding boxes:

A00 = 1,000	F00 = 1,500	L00 = 2,000
B00 = 1,100	G00 = 1,600	M00 = 2,100
C00 = 1,200	H00 = 1,700	N00 = 2,200
D00 = 1,300	J00 = 1,800	P00 = 2,300
E00 = 1,400	K00 = 1,900	R00 = 2,400

One thousand two hundred fifty (1,250) would be entered as C50; 1,472 would be entered as E72, etc.

Eight "Type 2" records have been provided on the Coding Form. If more than eight are needed, the interviewer should use the second page of a clean Coding Form and staple or clip that form to the original form.

Item 32 Available Catch (Type 3 Records)? - The angler's available catch from the mode of intercept should be entered at Item 31 on the Coding Form. Each line of information recorded at Item 31 is called a "Type 3" record because of the "3" pre-coded on the Coding Form. Each "Type 3" record should have a species name, a 10-digit species code (Attachment J), the total number of that species available, the length of one fish of the species and the weight of that fish, and the disposition of the majority of that species.

When more than one fish of a species are available, the interviewer need not repeat the species code, the total number of fish or the disposition code on all lines. If the species code, total number and disposition code on one record are exactly the same as that in the record above, the interviewer should draw arrows down, indicating which boxes are exactly as the ones above. This only holds true, however, for the species code, total number and disposition. If the weights and lengths are the same, they must be written out.

If fifteen or fewer fish of one species are available, all fish of the species are to be weighed and measured. If more than fifteen fish of one species are available, the interviewer should randomly select fifteen fish to be weighed and measured (see Section 2.3.4.4 on subsampling).

Item 32 is a key item and requires a specified minimum amount of information. The minimum acceptable data needed to satisfy this item is a count by species. If the angler is in a hurry, the interviewer should strive to sort the fish by species and obtain a count of each species. This will render the interview acceptable. (It will not become an Interview Status "5" at
Item 10.)

Three coding boxes have been provided for "Total No." in Item 32. As stated in the discussion of Item 31, no codes have been reserved for "don't know" and "refused". A 999 will be read as nine hundred ninety-nine. Numbers above three digits, that is, above 999, are indicated through use of an alphabetic character in the first position. The codes are listed in Item 31, above. If one of these codes is used, the interviewer must write out the actual number in the available white space.

After a count by species, next in order of priority is weight. If the angler is in somewhat of a hurry, the interviewer should strive to get weight measurements and the disposition. Last in order of priority, but not to be ignored, is length.

If length, weight **or** disposition is missing, the interviewer should complete the records as required, but fill in the boxes for the missing data with **"9"s**. Missing data should be footnoted with an explanation. Common reasons for missing data are: angler refused to let weigh; angler refused to let measure; weight missing because fish was gutted; weight missing because weight exceeded capacity of scale.

If length **and** weight information are missing on **some** fish of a species, i.e., the angler refused to have the appropriate number weighed and measured, the interviewer should fill in the available weights and lengths using separate "Type 3" records and then complete one "Type 3" record for the species with "9"'s filled in for the weight and length. The interviewer should then use a footnote to explain why the appropriate number of fish were not weighed and measured.

If length **and** weight information are missing on **all** fish of a species, the interviewer should fill out only one "Type 3" record for the species. That record would have "9"'s in the length and weight boxes and either a disposition code or a "9" in the disposition box. Again, a reason for the missing data should be given in a footnote.

The disposition codes for the "Type 3" record are the same as those used in the "Type 2" record. The question to be asked is: "What do you plan to do with the majority of the _________?" Since only one disposition can be used for each species in the "Type 3" record, the question is "majority" or highest number of fish. For example, if an angler has caught three (3) fish of the same species and he/she intends to sell the largest one (1) and eat the two (2) smaller ones, then the interviewer should code disposition as "3" (Eaten/Plan to eat) since more fish will be eaten than sold. Weight should be used to determine disposition when the fish split evenly by number into two or more dispositions. For example, if there are exactly two (2) fish of one species, one (1) of which will be sold and one (1) of which will be eaten, the interviewer should code to the disposition of the heavier fish.

Twenty "Type 3" records can be entered on each Coding Form. If more than twenty are needed, the interviewer should use the second page of a clean Coding Form and staple or clip that form to the original form. In some instances, several "second pages" may be needed.

The interviewer should never skip a "Type 3" record line on a Coding Form. The next fish should be entered on the next line.

Item 33 <u>Type 4 Record?</u> - This item is applicable only to those anglers whose available fish have been recorded on another angler's form at Item 32. This would only happen when the anglers are unable to separate their individual available catch. The first angler in the group would have all the available catch coded on his/her form and the other anglers in the group would have a "Type 4" record. If Item 33 is not applicable, it should be left blank.

The coding boxes for Item 33 are placed horizontally across the bottom of the first page of the Coding Form. At Item 33 the interviewer should enter his/her interviewer code; the year, month and date of the interview; and the interview number of the form on which the angler's fish have been coded. It is called a "Type 4" record because of the "4" pre-coded on the Coding Form.

An angler with a "Type 4" record should have no "Type 3" records, and an angler with one or more "Type 3" records should have no "Type 4" record.

Item 34 Boat Fishing Group Participation? - This question is asked to determine whether the angler fished on a boat with other anglers, and if so, how many (including the interviewed angler) fished on that boat trip. If he/she did not fish on a boat, then code “88" at Item 34, “8" at Item 35 and proceed to Item 36. If the angler fished on a boat but was fishing alone, code "1" at Item 34, "8" at Item 35, and proceed to Item 36.

Item 35 First Person from Boat? - If the angler indicated in Item 36 that they fished together with other anglers on the same boat, then ask "Are you the first person on the boat I have interviewed?" If they respond "yes", code "1"; if they are not the first interviewed, code "2".

Note: Items 34 & 35 are "key items". They are not the same as items 27-30 which pertain to group catches. Remember that question 30 should only indicate members of the fishing party who contributed to the catch. An interviewer may interview a member of a boat fishing party who did not catch a fish and would not be included in Items 27-30. Items 34 & 35 and the associated "Type 6" record will provide better information to determine if being in a group affects catch rates.

Items 36 to 39 are not questions to be asked of the angler. Rather, they are items to be filled in by the interviewer after the interview is completed.

Item 36 Number of Type 2 Records? - The interviewer should enter the number of "Type 2" records that are filled out on the angler's form. "Type 2" records are lines of information about fish unavailable for inspection in Item 31. Item 36 serves as a computer prompt to "tell the computer" how many lines of information to read at Item 31.

Item 37 Number of Type 3 Records? - The interviewer should enter the number of "Type 3" records that are filled out on the angler's form. "Type 3" records are lines of information about fish available for inspection in Item 32. Item 37 serves as a computer prompt to "tell the computer" how many lines of information to read at Item 32.

Item 38 Type 4 Record? - If the angler has a "Type 4" record (i.e., his/her available catch has been recorded on another angler's form), the interviewer should enter a "1" at Item 38. This will "tell the computer" to look for an entry at Item 33. If the angler does not have a "Type 4" record, the interviewer should enter a "0".

Item 39 Type 6 Record? - This record is used to associate a given angler with the first interviewed angler who fished from the same boat on the same day (head boat, charter boat, private boat or rental boat). The "Type 6" record should only be filled out if the angler is not the first person interviewed from the boat (Refer to items 34 & 35 above). The interviewer should never fill out a Type 6 record for a shore mode angler. While the Type 4 records group anglers who caught fish and mixed their catch together, the Type 6 record groups anglers who fished together from the same boat. Groups linked by Type 4 records only include anglers who caught fish. However, groups linked by Type 6 records may include anglers that did not catch fish.

2.3.4 Biological Data

2.3.4.1 Fish Identification

Interviewers must strive to identify all available fish to the lowest taxonomic level possible, preferably the species level. In the interest of professionalism, the interviewer should never ask the angler to identify his/her own catch. For Type 3 records, the interviewer must identify the fish without exception.

Attachment J contains a species list sorted alphabetically by common name. Accepted common names are not necessarily those used by local anglers, and interviewers should know how to translate local names to accepted common names. Attachment K contains a listing of many of the local names (not necessarily accepted common names) for fishes that have been observed during MRFSS intercept data collection on the Atlantic and Gulf coasts.

Each species of fish listed in Attachment J has been given a unique 10-digit identification code. These codes are usually structured as follows:

First two digits = Class
Next two digits = Order
Next two digits = Family
Next two digits = Genus
Last two digits = Species

All fish within the same family would usually have the first six digits in common, and all fish within the same family and genus would usually have the first eight digits in common.

If an interviewer cannot identify a fish to the species level, he/she should identify the fish as close to the species level as possible. That is, he/she should identify the fish to the genus level or, if not the genus level, the family level. The known digits of the code should then be entered and the remainder of the 10 digits filled in with "0"'s. For example, a fish known to be in the left-eye flounder family that cannot be identified to the genus or species level should be coded "8857030000". On "Type 3" records, in particular, a species level identification is required. Fish directly observed which cannot be identified to the species level should be recorded in “Type 2" records rather than in “Type 3" records.

Peterson's <u>Field Guide to Atlantic Coast Fishes of North America</u>, Peterson's <u>Field Guide to Pacific Coast Fishes</u> and <u>Fishes of the Gulf of Mexico</u> by Hoese and Moore are the recommended field guides for use by interviewers in identifying fishes. However, other local references and taxonomic keys which are approved by the NMFS and are available to interviewers and field supervisors can also be used. Attachment L contains additional descriptive information on species with common identification concerns on the Atlantic and Gulf coasts.

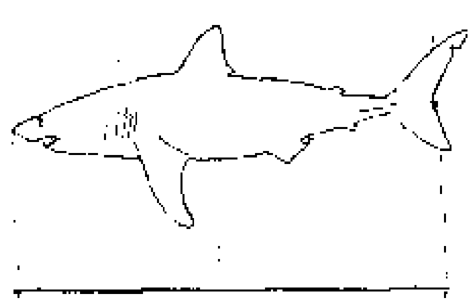
The species code lists in Attachment J are not exhaustive. Interviewers may occasionally identify a species that does not appear on the list, particularly species that occur primarily in freshwater. When this situation occurs, the interviewer should write out the scientific and accepted common name of the species and leave the coding boxes blank. A field supervisor will then find the species code. Attachment J also contains codes to be used when the family identity of a fish is unknown. While these cannot be used for available fish, they may be used for fish unavailable for inspection (Item 31). These codes are the following:

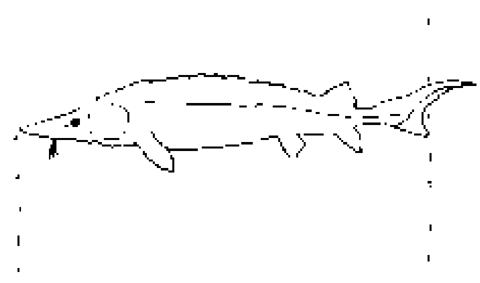
Unidentified	1000000000
Unidentified Bottomfish	1000000001
Unidentified Shark	1000000002
Unidentified Surface Fish	1000000003

2.3.4.2 Length Measurement

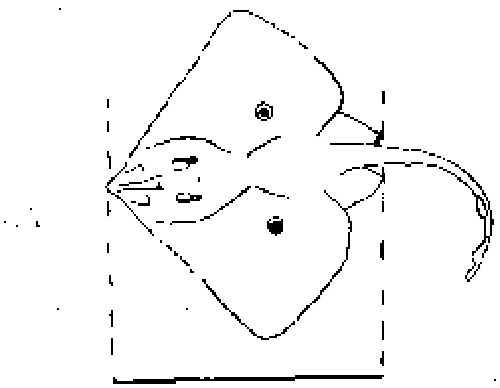
Fish lengths must be taken with standard measuring boards (usually about 76 centimeters long (30 inches)) and recorded to the nearest millimeter. Interviewers must also carry a tape measure for fish longer than one meter. Since four coding boxes are provided for the length measurement, a fish that measures 231 millimeters should be coded as "0231." Interviewers must be careful not to introduce a digit bias into their measurements by rounding lengths to the nearest centimeter or half-centimeter. All fish species in an angler's catch will be measured and weighed unless refused by the angler. If the angler has caught more than fifteen fish of a particular species, then at least fifteen must be selected at random for measuring and weighing. Subsampling procedures are described in Section 2.3.4.4. The correct procedures for measuring the various types of fish on the Atlantic and Gulf coasts are as follows:

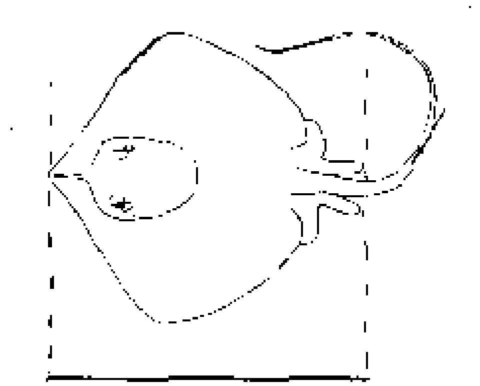
Sharks and sturgeons are measured from the tip of the snout to the center of the fork of the tail.



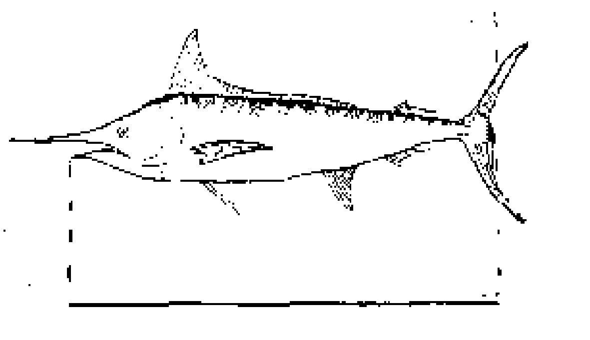


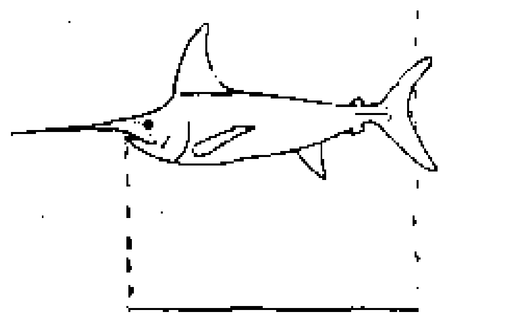
Skates and rays are measured from the tip of the snout to the distal end of the pelvic fins.



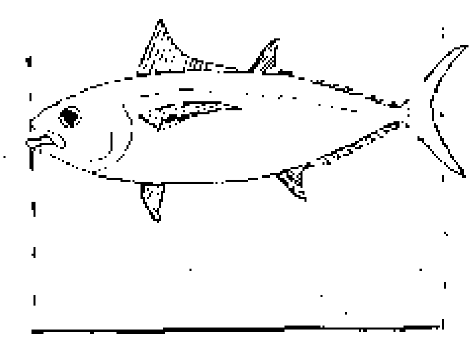


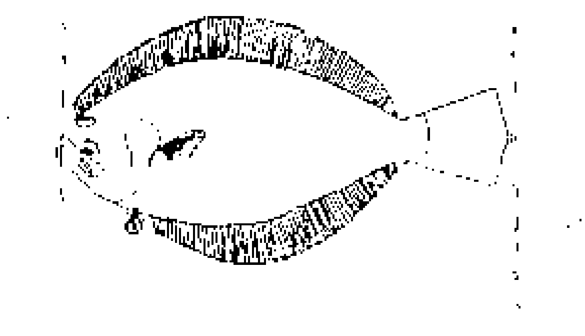
Billfishes and swordfish are measured from the tip of the lower jaw to the center of the fork of the tail.





All other species are measured from the most anterior tip of the longest jaw (mouth closed) or end of snout, whichever is terminal, to the posterior tip of the tail at its center line. This procedure is the same whether the tail forks in (i.e., mackerels) or protrudes out (i.e., flounders). The resulting length is therefore a fork length.





2.3.4.3 Weight Measurement

Each interviewer must be provided with two scales each: a large scale (ex: 12 kg) and a small scale (ex: 2 kg). The scale capacity should be selected based on the average sizes and range of sizes of fish in a region. The larger scale shall be used only for fish weighing more than the weight capacity of the smaller scale. Fish weights are to be recorded to the nearest tenth (0.1) of a kilogram when the larger scale is used and to the nearest five hundredth (0.05) of a kilogram when the smaller scale is used. Six boxes are provided for the coding of weight: three to the left of the decimal, one containing a decimal, and two to the right of the decimal. For example, a fish weighing 2.4 kilograms on the larger scale should be coded as "002.40", and a fish weighing 0.16 kilograms on the smaller, more precise scale should be coded as “000.15".

Occasionally an interviewer may come across a fish whose weight does not register on the smaller scale at even five one-hundredths of a kilogram. If several fish of the species have been caught, the interviewer should place up to fifteen fish of the species in a plastic bag, taking care that no water accumulates inside. The interviewer would then weigh the entire bag and distribute the weight among the fish in increments of 0.05 kg and 0.00 kg. For example, if fifteen fish weigh a total of 0.65 kg, thirteen fish would be recorded as weighing 0.05 kg, and two fish would be recorded as weighing 0.00 kg. The fish of longer length should each be assigned a weight of 0.05 kg, while the three shortest fish should each be assigned a weight of
0.00 kg. This procedure will result in the correct average weight of the fifteen fish.

On the Atlantic and Gulf coasts **weight measurements should be given priority over length measurements for interviews where time is restricted**. There may be occasions when length and/or weight measurements are missing. As a general rule, when weights and/or lengths are missing, the interviewer should fill the coding boxes with "9"'s and provide a footnote explaining why the data are missing.

On the Pacific Coast, weight measurements do not need to be taken. Length-weight conversion formulas are available to estimate the weight from the measured length.

2.3.4.4 Subsampling

If more than fifteen fish of one species are available for inspection, the interviewer must use an appropriate selection process for the fifteen fish to be weighed and/or measured. The selection process, called “subsampling”, must be random.

Ideally, the interviewer would line up the fish from largest to smallest, divide the total number by fifteen, and select every n^{th} fish for length and weight measurement. For example, if there are 30 fish of one species, the interviewer should line them up by size and select every 2^{nd} fish. This method of sampling would be “systematic random” rather than “ simple random”.

When systematic random sampling is not possible, simple random sampling is preferred. Due to time or space limitations, it may be impossible to line up the fish. In such cases, the interviewer should randomly select the fifteen fish to be weighed and measured as they are being counted. The procedure for randomly selecting the fish while counting would follow the same protocol as if the fish were laid out for display. First, estimate the number of fish that are to be counted, divide the estimated total number by fifteen, and select every n^{th} fish for length and weight measurement. Attempting to randomly select fish by blindly reaching into a cooler will typically over-sample large fish. At no time should the interviewer visually select fifteen fish of "average" size to weigh and measure - this is not random or systematic sampling!

2.4 Intercept Data Handling

2.4.1 Field Editing Guidelines

Interviewers and field supervisors must follow strict guidelines while editing coding forms before submission for data entry. Coding problems are most easily resolved at the field level, before much time has passed since data collection. These guidelines are meant to ensure that all items on the coding form are completed with valid entries and that the data are consistent and accurate.

A general guideline for editing is that all blocks on the front of the coding form contain numbers except for item 14 which may be left blank. This includes leading zeros and "8"'s for not applicable questions. Refused items must be completely coded with "9"'s and responses of "don't know" must be coded with "9"'s with the last digit as "8."

Item-by-item instructions apply to the 1995 intercept questionnaires (Attachment F). Some change in data items should be expected from year-to-year.

Item 1 Record Type - "1" is preprinted on the Coding Form, no editing is necessary.

Item 2 Assignment No. - All forms from the same assignment should have the same and accurate assignment number. If there is an assignment "2", there must be an assignment "1" for that interviewer on that date.

Item 3 Interviewer Code - All forms from the same assignment should have the same and accurate interviewer code.

Item 4 Year/Month/Day - All forms from the same assignment should have the same and accurate date.

Item 5 Interview Number - All forms from the same assignment should have a unique and sequential interview number, beginning with "01."

Item 6 Hour - Hours should be checked against times at site. Check to make sure that 24-hour time is used.

Item 7 State - All forms from the same assignment must have the same and accurate State code.

Item 8 <u>County</u> - All forms from the same assignment must have the same and accurate county code. County codes must match those on the site register for the State of intercept.

Item 9 <u>Site</u> - There can be no more than three site codes used for the same assignment, except when special conditions are in effect. These site codes must be among those on the site register for the State and county of intercept, except when an alternate site was previously unknown and needs to be added to the register.

Item 10 <u>Interview Status</u> - Check the completeness of the coding form and verify the interview status. A status of "1" must have all questions answered. A status of "2" must have all key questions answered.

Item 11 <u>Fishing From Which Mode?</u> - Intercepts at shore sites must be coded from "1" to "5", while intercepts at boat sites must be coded from "6" to "8". Intercepts at South Atlantic and Gulf boat sites cannot be coded "6" for head boat.

Item 12 <u>Type of Water Fished In?</u> - Ocean, gulf and other open water must be coded with "1". All other water bodies should be "2" to "5", or the letters for designated estuaries. All interviews from one site in the shore mode should be coded the same.

Item 13 <u>Three Mile Limit?</u> - Responses other than "1" for Item 132 must be coded with "8" for Item 13. Only responses of "1" to Item 13 can be coded with "1" or "2" for Item 13. Only boat sites can be coded with "2"; shore sites cannot be coded "2". Interviewers in West Florida must use "3" or "4", instead of "1" or "2", for Item 13.

Item 14 <u>Target Species?</u> - The first position of this item must be completed with a valid species code or left blank. If the first position is blank, then the second position must also be blank. If the first position has a species code, then the second position can be blank or have a second species code. All codes must be valid NODC finfish species codes.

Item 15 <u>Gear?</u> - The only valid codes are from "1" to "10". Codes "2" to "10" must be verified.

Item 16 <u>Time Fishing?</u> - The minimum entry is "00.5" and the maximum entry is "24.0". The number to the right of the decimal must be "0" or "5".

Item 17 <u>Additional Hours?</u> - This item should not be more than three times the number of hours entered in Item 16.

Item 18 <u>Days in Past 12 Months?</u> - The minimum entry is "000" and the maximum entry is

"364" or "365", depending on leap year.

Item 19 Days in Past 2 Months? - The minimum entry is "00" and the maximum entry from "59" to "62", depending on the months included. This entry cannot be greater than that for Item 18.

Item 20 Residence? - The State and county codes must be checked against the entries handwritten on the coding form.

Item 21 ZIP Code? - The ZIP code must be checked against the State and county from Item 20.

Item 22 Type of Residence? - This item must be coded "1" or "2".

Item 23 Has Phone? - If Item 22 is coded "1", then this item must be coded "1" or "2". If Item 22 is coded "2", then this item must be coded "8".

Item 24 Age? - The minimum entry is "05" and the maximum entry is "97".

Item 25 Gender? - This item must be coded "1" or "2", not "M" or "F". This can sometimes be checked against the first name entered in Item 26.

Item 26 Name and Phone Provided? - This item must be coded "1" or "9". Addresses should not be taken. Area code must be included.

Item 27 Were Fish Caught To Look At? - This item must be coded from "1" to "3". If this item is coded "1", the intercept must have at least one Type 3 record. If this item is coded "2" or "3", the intercept cannot have any Type 3 records. If it is coded "3" there must be a Type 4 record.

Item 28 Is Catch Mixed? - This item must be coded "1", "2" or "8".

Item 29 Can Separate Catch? - This item must be coded "1", "2" or "8".

Item 30 Number Who Caught Fish? - The minimum entry is "02". Entries greater than "6" in the shore and private/rental boat modes and "15" in the party\charter boat modes should be verified.

NOTE: There are only five acceptable patterns of coding items 27-30:

Item 27	1	1	1	2	3
Item 28	1	2	2	8	8
Item 29	8	1	2	8	8
Item 30	88	88	02-15	88	88

Item 31 <u>Unavailable Catch (Type 2 Records)?</u> - Each Type 2 record must have complete information, including disposition. All species codes must be checked against written names. Unusual species within a subregion/state/mode/area must be verified. All numbers of fish exceeding "100" must be verified. The standard responses for "don't know", "998", or "refused", "999", are not allowed for this item. "Given away" or "filleted" are not valid responses for a disposition coded "7". If the intercept is for a group catch, then look at the forms from all group members to be certain that each person's Type 2 fish are on their own form.

Item 32 <u>Available Catch (Type 3 Records)?</u> - Each Type 3 record must have at least a species code and a total number. (Drawing an arrow down for species and number is acceptable.) All species codes must be checked against written names. Unusual species within a subregion/state/mode/area must be verified. Lengths and weights must be checked for reasonableness. Pay particular attention that pounds are not recorded instead of kilograms. Maximum sizes must be within 10 percent of published values or corrections to published values as approved by NMFS. All numbers of fish exceeding "100" should be verified. The standard responses for "don't know", "998", or "refused", "999", are not allowed for this item. "Given away" or "filleted" are not valid responses for a disposition coded "7". Make sure that the number of records for each species does not exceed the total number of fish recorded.

Item 33 <u>Type 4 Record?</u> - If this record is used, make sure that the interview number entered in the last position of the Type 4 record matches the interview from the party that has the Type 3 records. The number of forms with Type 4 records referring back to the same interview must not exceed the number entered in Item 37 minus one.

Item 34 <u>Number in Boat Fishing Group?</u> - If the interviewed angler did **not** fish on a boat then this number must
be “88". Otherwise this number must be at least “1".

Item 35 <u>First Boat Group Member Interviewed?</u> - This item must be coded “8" if the interviewed angler did not fish on a boat or it must be coded either "1" or "2" if he/she fished on a boat. If the number entered for Item 35 is “2", then make sure a Type 6 record has been filled out and the interview number entered in the last position of the Type 6 record matches the interview number of the first member of the boat fishing group who was interviewed.

Item 36 <u>Number of Type 2 Records?</u> - This entry must match the number of Type 2 records on the back side of the coding form.

Item 37 <u>Number of Type 3 Records?</u> - This entry must match the number of Type 3 records on the back side of the coding form.

Item 38 Number of Type 4 Records? - This item must be coded "0" or "1." If this item is coded "0", then the Type 4 record should have no entries. If this item is coded "1", then the coding form should have entries in the Type 4 record.

Item 39 Type 6 Record? - This item must be "0" or "1". If this item is coded "0", then the Type 6 record should have no entries. If this item is coded "1", then the coding form should have entries in the Type 6 record.

2.4.2 Hierarchical Record Format

Intercept data are stored in a six record hierarchical format with records linked by a unique identifier for each intercept. The identifier includes assignment number, interviewer code, date and interview number. Data included within each record type are:

Type 1 - Identifying information on the fishing site, mode and area. Other information includes angler demographics, fishing effort, and target species.

Type 2 - Unavailable catch by species, i.e., fish thrown back, used for bait, etc. Information includes number caught and disposition.

Type 3 - Available catch by species, i.e., fish seen by interviewers and weighed and measured. Information includes number caught, length, weight and disposition.

Type 4 - Identifier of leading contributor to unseparated mixed group catch.

Type 5 - This record has been used in past years to gather varying data such as socio-economic variables.

Type 6 - Identifier of first interviewed member of a group of anglers who fished together on the same boat.

The format for each record type and variable descriptions for 1994 are included in Attachment A.

2.4.3 Data Entry and Edits

The Contractor shall use a data entry program provided by NMFS. The data entry program is under development and will be designed to run on commonly available software (i.e. MS Access, SAS, BASIC). A prototype data entry program will be placed on the MRFSS web site (http://remora.ssp.nmfs.gov/mrfss) for examination by offerors. The data entry program employs logical checks to prevent incorrect coding entries and to flag illogical entries.

If an automated data recording technology became available for on-site intercept interview recording, NMFS would work with the Contractor to develop acceptable procedures.

All checks described in the field editing guidelines in Section 2.4.1 must be incorporated into machine edits. Every data element must be checked for data entry errors, reasonableness in falling within an acceptable range, and logic in relation to other data elements. Duplicate identification numbers must also be identified and corrected. An example of the quality control program can be found in Attachment M.

2.5 Quality Control

2.5.1 Field Supervision

Regular feedback from field supervisors to interviewers provides one of the earliest and most important means of quality control. The duties of field supervisors are described fully in Section 2.1.4. Field supervisors should also routinely check the Data Coding forms of their field interviewers for completeness, accuracy, reasonableness of species identifications, and logical weights and lengths.

Field supervisors must also verify that intercepts are collected at assigned sites or that alternate site selection procedures are used properly. Checking daily activity forms completed by interviewers would be one approach to accomplish this.

Meetings with groups of field interviewers (focus groups) to review data collection procedures, site-specific sampling problems, species identification and new recreational fishery developments would be highly desirable. Follow-up species identification training conducted during focus group sessions may be necessary for species of particular concern.

2.5.2 Wave Meetings and Review of Wave Results

Representatives of the contractor(s), selected Field Supervisors, NMFS MRFSS staff and interested personnel from other Federal and State entities shall meet periodically to review preliminary catch estimates, to discuss field interviewing procedures and cost-effectiveness procedures, to provide continuing education and training of the Field Supervisors and field interviewers, and to enhance cooperation between the MRFSS and other programs.

2.5.3 Administrative Data Reports

The RFP specifies the data reports needed by NMFS on a regular basis to effectively monitor the conduct of the intercept survey. Included are such items as completion of quotas, interviewer productivity, and Site Register updates. Timely submission of these performance data is necessary to maintain data collection quality through identification of problem areas and adjustment of procedures as necessary.

Also of critical importance to quality control is regular reporting from field supervisors on activities within their area. Results of all supervisory activities described in Section 2.1.4 must be fully documented. These include initial field observations of newly hired interviewers, follow-up field observations and species identification training, focus group sessions, and State agency sampling coordination.

2.5.4 Telephone Validation

Interviewers must collect names and telephone numbers of anglers for the purpose of telephone validation. At least 10 percent of each interviewer's intercepts must be validated by telephone. While names and telephone numbers will not be volunteered by all anglers, experience shows that approximately 70 percent of anglers are willing to provide this information. Interviewers with significantly lower response rates to this data item should be closely supervised.

Telephone validation involves the calling of anglers to verify that they were interviewed at a particular fishing site on a particular day. They are also asked whether the interviewer asked to examine their catch. Anglers are then given an opportunity to voice their opinions on how the interviewer’s conduct.

The main purpose of the telephone validation is to independently verify that the interviewer was at work where and when he/she was supposed to be. It also provides project managers with feedback on interviewer conduct in the field.

2.5.5 Outlier Analyses

The number of intercepted anglers with catches of a particular species can be relatively small in certain states, waves, and modes. Given these small sample sizes, unusually large reported numbers of fish caught can result in unrealistic expanded estimates of the catch of this species. In these cases, it is appropriate to conduct analyses to adjust outliers in the data set. Outlier adjustment should never cause changes to the raw data files.

One method of outlier adjustment involves an examination of frequency distributions of pooled data for catch per angler from the five most recent years (and excluding the current year) for a particular species, state, wave and mode. Any observation in the current data set that is outside of the 95th percentile would be changed to the value of the 95th percentile. Other data elements that should be checked for outliers include hours fishing, number of fishing trips in the previous two months, and number of fishing trips in the previous 12 months.

3.0 TELEPHONE HOUSEHOLD SURVEY

3.1 Interviewers

3.1.1 Qualifications

The telephone household survey is conducted during six discrete dialing periods throughout the year. This approach may require a large pool of part-time interviewers because of the non-continuous nature of the work. Interviewers must have strong communications skills and be able to interact with people in a friendly and professional manner. Experience in telephone interviewing is desirable to effectively deal with a variety of situations while conducting the interview.

At least one interviewer per shift must be bilingual (English-Spanish). All contacts requiring a Spanish-speaking interviewer must be referred to this interviewer, who would administer the questionnaire using a Spanish translation.

3.1.2 Training

An extensive training session must be held for all personnel who have not worked on the survey in previous waves. This training must cover general telephone interviewing procedures as well as procedures specific to the MRFSS. Subjects addressed in the telephone survey training sessions must include, but not necessarily be limited to:

o Recording call attempts and completions,
o Screening respondents for eligibility,
o Setting appointments and making callbacks,
o Overcoming respondent resistance and discouraging refusals,
o Recording answers,
o Proper probing and clarifying imprecise or confusing responses,
o Reading the questionnaire verbatim,
o Obtaining complete answers,
o Random digit telephone number generation,
o Assuring confidentiality of responses,
o Awareness of county quota systems, and
o Callbacks to verify high numbers of reported trips.

Training sessions must include a general overview of the background, purpose and design of the MRFSS. Questions and discussion should be encouraged to ensure that all interviewers understand the importance and overall purpose of the study. This overview must be followed by an item-by-item explanation of the data collection instruments and a review of all materials used to conduct the interview.

Each training session must contain periods of role playing to result in good interviewing technique. All trainees must conduct practice interviews with supervisors to allow first-hand criticism of their interviewing technique.

All interviewers, including those employed during previous waves, must receive a final briefing before the start of each wave's dialing period. This briefing will refresh techniques established in previous waves, review the basic details of the study, explain the exclusions in questionnaires that are applicable to that wave and point out any changes in forms. Questions would be strongly encouraged during these final briefings.

3.1.3 Supervision

Project supervisors must oversee the operation of the telephone household survey. These individuals must be experienced in telephone interviewing and be knowledgeable about the MRFSS. They must also have effective skills in managing and motivating personnel.

Supervisors must validate interviews by recontacts and/or monitoring of interviews in progress (see Section 3.5.1). Additional training or other remedial action must be taken when appropriate. Interview monitoring allows supervisors to offer suggestions to interviewers to help improve their interviewing technique.

Supervisors must review all completed questionnaires on a daily basis during the dialing period. They must check to see that coding forms are completed fully and accurately. Any apparent mistakes or inconsistencies must be checked with interviewers and, if necessary, the respondent would be recontacted to clarify an answer. Respondents who report an abnormally high number of trips (greater than the 95^{th} percentile for each wave, state and mode calculated from the five most recent years of data, exclusive of the current year) should be recontacted for verification.

3.2 Sample Allocation

3.2.1 Coastal County Definition

Counties with any part of their boundary within 25 miles of the coast or major bays or estuaries are considered coastal counties and are included in the telephone household survey. There are several exceptions to this definition:

1. The boundary is extended to 50 miles in the South Atlantic and Gulf subregions from May through October.

2. Some counties on the Pacific Coast inland of the 25 mile zone are included since they represent metropolitan areas that contained anglers known to go saltwater sportfishing.

3. North Carolina coastal counties are within 50 miles of the coast from November through April and within 100 miles of the coast from May through October.

3.2.2 County Allocation

For the 1995 MRFSS, NMFS allocated 208,000 telephone households among Atlantic and Gulf states in proportion to fishing effort. Allocations are expected to be similar in 1996. On the Pacific coast (California and Oregon), the allocation is expected to be about 55,000 telephone household interviews. The effort index used for 1993-1995 was a three year (1990-92) average of coastal county resident trips by state. Within each subregion/state, a base level of 200 telephone households was allocated for each wave to assure that sufficient data were available to produce estimates. Allocations among waves are also proportional to effort. County allocations are proportional to the square root of the number of full-time, occupied households with telephones in a coastal county divided by the sum for the state of the square root of the number of full-time, occupied households with telephones in each coastal county.

3.2.3 Sample Frame

A national sample frame of blocks of coastal county household telephone working numbers has been developed under past MRFSS contracts. Each block must have had at least one residential number assigned to be included in the sample frame. Blocks are the first five digits of every telephone number within each area code. The first three digits (prefix or exchange) are assigned to specific geographical areas by the telephone companies. Prefixes must be used in meeting allocations of calls by county. The fourth and fifth digits are often designated as business or residential use, so blocks including business numbers can be screened out of the sample frame for more efficient dialing. Unassigned blocks have also been eliminated from the sample frame. Since not all blocks are assigned by the telephone companies, random digit dialing including these blocks would result in wasted effort.

The sample frame must be maintained on a continuing basis through the use of current telephone directories, reverse directories (sorted by blocks instead of names) and information from telephone companies. This information is released in a revolving manner rather than once a year, so the updating process must be done on a continual basis. Using this approach, the most current telephone sample would be available for generation of telephone numbers for each dialing period.

3.2.4 Random Digit Dialing

The number of households to be dialed in each county must be sub-allocated by screened telephone blocks. The number of calls to each block must be proportional to its occurrence in the population. For example, if 3.7 percent of all telephones in the county begin with 274-45, then 3.7 percent of all interviews must be conducted with households in this block. The last two digits are generated randomly. This approach ensures that all telephone households, even those with unlisted numbers, are eligible to be reached in the survey.

If the number dialed has been disconnected and a new number assigned, the new number should not be dialed as a replacement. The primary interest of the survey is not the household, but the randomly generated telephone number and the results obtained when dialing that number.

Duplicate telephone numbers must be screened out of the generated set of random numbers for each wave; however, with replacement sampling across waves, it is possible that in sparsely populated counties households will be contacted that have been interviewed during previous waves. Special tracking procedures must be used to ensure that no more than one percent of the households contacted are included in the sample more than once during the year.

3.2.5 Dialing Period

All household dialings must be completed within a two week period during the last week of each wave and the first week of the next wave. This approach results in a uniform recall period of 60 days for all respondents that most closely matches the two month wave. If all calls were made during a two week period after completion of the wave and anglers were asked about their trips during the specific wave time period, then the recall period could vary from 60 days to 75 days depending on when the interview took place.

Telephone calls must be made during that time of day that maximizes the potential to contact individuals. At least five attempts must be made on each number to screen for households and their eligibility for an interview. These attempts must be stratified by weekend/weekday and day/evening as listed below. At least five additional attempts must be made to reach eligible anglers in each household. That is five attempts per household, not per eligible angler in the household. When each number is dialed, the telephone should be allowed to ring five times before the interviewer classifies it as a "no answer." The percentage of "no answer" or "busy" results must not exceed 10 percent of the total calls attempted in any subregion.

The pattern of dialing will be such that each number will have at least one weekday attempt and three night or weekend attempts, at least one of which must be a weekend attempt. The time delineating day and night is 5 p.m. Once a household is contacted, call-backs must be made on an appointment basis. Household members should be questioned as to the best time to call back in order to interview the eligible respondent(s).

3.3 Telephone Household Data Collection

3.3.1 Screening Procedures

3.3.1.1 Household Eligibility

Only permanent, year-round residents of households in coastal counties are eligible to be interviewed as part of the telephone household survey. If the person answering the telephone (e.g., babysitter) is unable to give enough information to determine if the household is eligible, then the household must be recontacted.

Respondents from businesses, institutional housing, part-year housing and coin-operated telephones are ineligible. If a business is located at a residence but has a telephone number separate from the residence, then it is considered a business telephone. However, if the telephone number is shared, it is a residential telephone.

Even though a Spanish speaking interviewer must be available for dialings to areas with large Hispanic populations, there may be occasions that the respondent speaks another foreign language. If the interviewer is unable to talk with anyone else in the household that can communicate in English, then the household is ineligible for the survey because of the language barrier.

3.3.1.2 Screening Introduction

The telephone household survey screening must generally match the intercept survey in terms of data elements necessary to screen for eligible anglers. However, due to the differences between the respondents of these surveys, different approaches may be taken in the line of questioning. For the telephone household survey, it is most efficient to establish that there are persons who fish in the household before conducting additional screening. Asking a very generic initial question like "Does anyone in this household go fishing?" will accomplish this goal. In past years, all of these data were essentially collected, then discarded, since the interviewer conducts the screening for each trip. However, some of these data have potential use in reducing variances associated with the adjustment of trips estimates by the coastal/non-coastal resident ratio from the intercept survey. Beginning in 1996, some of these data will be kept, but flagged.

Other screening questions must address the following items.

1. <u>Recreational vs commercial</u> - Recreational anglers are those individuals whose primary purpose of fishing is for fun or relaxation, as opposed to providing income from the sale of fish(ing). If part or all of the catch was sold, the monetary returns may have constituted an insignificant part of the angler's income; if so, the angler is considered recreational. Commercial trip data are not kept. Charter/party trips made by charter/party boat captains and crew members as business trips are ineligible, although trips made by captains or crew for their own pleasure are eligible.

2. <u>Saltwater vs freshwater</u> - Saltwater includes oceans and open water areas, as well as inland salt or brackish water bodies affected by the tides. Inland saltwater bodies include sounds, passes, inlets, bays, estuaries, tidal portions of rivers, and other areas of salt or brackish water like bayous and canals. Some coastal water bodies are called lakes but should still be considered saltwater, i.e., Lake Pontchartrain, Louisiana. However, high salinity non-coastal lakes like the Salton Sea in Southern California are not valid marine recreational fishing areas. These trip data are not kept.

3. <u>Finfish vs shellfish</u> - Only fishing trips directed at fish with fins are eligible for a full interview. Information on trips made in pursuit of crabs, shrimp, lobster, clams, oysters,

mussels, scallops, and other invertebrates is obtained through a follow-up shellfishing questionnaire. These trip data are not kept.

4. In-state fishing vs out-of-state fishing - Fishing trips made out-of-state are to be flagged. For survey purposes, the east and west coasts of Florida and Northern California and Southern California are equivalent to separate states. Boat anglers who left from their home state and fished in waters off another state are eligible for the survey, and are not flagged. Fishing trips from foreign ports or in foreign waters leaving from U.S. ports are to be flagged. This is a particular concern in the San Diego area.

5. Fishing in the past two months - Only fishing trips made in the last two months are eligible for the survey. Data on trips previous to the two-month period are not kept.

6. Salmon fishing on the Pacific coast - Fishing trips for salmon on the Pacific coast are to be flagged. To avoid duplication with ongoing state survey efforts for salmon, all fishing trips targeted on salmon in Washington are to be flagged. Ocean boat fishing trips for salmon in waves 3 and 4 in Oregon are to be flagged. All boat fishing trips for salmon in waves 3 and 4 in Northern California are to be flagged.

Flagged trip records will use the following codes for a trip_flg variable:
1=out-of state
2=salmon fishing trip.

3.3.1.3 Privacy Act Statement

All surveys conducted by the federal government are regulated by the Privacy Act of 1974. This Act stipulates that each person interviewed must be informed of the following; the auspices under which the survey is being conducted, whether participation is voluntary or mandatory, what will happen if they choose not to participate, and how the information will be used.

Under the Privacy Act, the person interviewed remains anonymous, the responses to the questions are completely voluntary, and there is no penalty for refusal to answer any or all of the questions. All of the information collected remains completely confidential. The Act is paraphrased on each questionnaire and must be read at the designated point in the screening introduction. A copy of the Privacy Act Statement (Attachment E) must be in possession of the interviewer and may be read at any point during the interview to reassure a wary respondent.

3.3.2 Telephone Household Survey Instrument

3.3.2.1 General Instructions

Copies of the 1996 Telephone Household Questionnaires are included in Attachment N. Some general instructions for conducting the interview are:

1. Wording - The questions to be put to the angler are written out in full for a purpose. Methodological studies have shown that even slight changes in wording, for example, "should" versus "could", drastically influence item response. The interviewer should always read each item on the Telephone Household Questionnaire exactly as it is written. Instructions to interviewers that are not to be read during the interview are written in CAPITAL LETTERS on the Telephone Household Questionnaire.

2. Provide Definitions, Not Answers - If the angler asks for the interviewer's opinion about an item, the interviewer should provide a definition for the item in question, rather than supply an opinion or the actual response. For example, if the angler is unsure about whether he was fishing from a head boat or a charter boat, the interviewer should explain the difference and let the angler decide.

3. Codes for Not Applicable Questions - As a general rule, items on the questionnaire that are not applicable to a particular angler (i.e., items falling out in skip patterns) are coded with "8"'s, as indicated on the questionnaire.

4. Codes for Refused Questions - As a general rule, items on the questionnaire that are refused are coded with "9"s.

5. Codes for Don't Know - As a general rule, items on the Questionnaire that the angler does not know the answer to are coded with "9"'s and a last digit of "8".

6. Right Justify and Add Leading Zeros - If a data entry does not require use of all boxes provided, the interviewer should right justify the entry and add leading zeros.

7. "Other (SPECIFY)" - The response codes for some data items are not exhaustive and include codes designated "Other (SPECIFY)". If an angler gives a response not covered by the pre-coded responses, the interviewer should enter the "other" code and write out the angler's exact response next to the coding boxes.

8. Notes/Footnotes - Unusual responses require explanation through the use of footnotes on the coding form. For example, more than two or three party/charter trips by a single angler during a wave would not be common and would require a note. In such cases the interviewer should place an asterisk (*) by the item and provide a footnote explaining the situation near the bottom of the coding form.

9. Terminate - Some responses are followed by the instruction to "TERMINATE." When the respondent answers with a response which has the "TERMINATE" instruction following it, the interviewer must thank the respondent pleasantly and say goodbye.

10. Maps - Maps for the State being dialed must be available to help interviewers determine the county in which cities are located and to help locate areas of fishing. Saltwater cut-off

points for rivers are particularly useful to help determine if the respondent was fishing in fresh or saltwater.

3.3.2.2 Item-by-Item Instructions

These instructions apply to the 1995 telephone household questionnaires (Attachment N). Some change in data items should be expected from region-to-region and year-to-year.

Screening Questions

Item 1 County of Residence? - This question verifies the location of the household dialed. The interviewer must write out the county name in addition to the three digit FIPS code. If the respondent does not know his/her county of residence, the interviewer should arrange to talk to someone in the household that does know.

Item 2 Permanent Residence? - This question verifies that the household contacted is a permanent, year-round residence. If the dwelling reached is a summer or winter cottage, for example, the respondent is not eligible for the survey and the interview is terminated. It is not necessary that the respondent has lived at that residence for two months prior to the survey, so it is okay to take information from people who have just moved in.

Item 3a Anglers in Household? - If no one in the household goes fishing for finfish, then the interviewer should skip to the shellfishing questionnaire.

Item 3b Twelve Month Fishing? - The interviewer must be careful to read this question exactly. It contains language to screen out anglers except those fishing recreationally, in saltwater, for finfish, in the last twelve months in the state of interview. The interview should skip to the shellfish questionnaire if no one meets the screening criteria. If the respondent cannot provide this information, then the interviewer must arrange to talk to someone in the household who can.

Item 4 Two Month Fishing? - This question should also be read carefully since it screens out ineligible anglers. The interview should skip to the shellfish questionnaire if no one meets the screening criteria. If the respondent cannot provide this information, then the interviewer must arrange to talk to someone in the household who can.

Interview Questions

All anglers in the household must be interviewed separately about their fishing trips in the last two months. There are exceptions to this rule. If the initial respondent indicates that all household trips were made as a group, then their responses can be applied to the remaining household anglers without separate interviews. Also, an adult can speak for a small child if he/she is knowledgeable of the child's fishing trips. Other occasions that would require responses from an individual about another household member's trips would include language barriers, extended travel away from the household, hospitalization, or even death. If more than five callback attempts fail to reach a particular member of the household, it may be necessary to ultimately gather the best information available on that person's trips from another household member (proxy data). The collection of proxy data is preferable to missing data.

Information gathered from household members other than the angler must be collected according to the following guidelines, developed in 1993 to maintain consistency and ensure accuracy from year to year. These include: 1) asking specific questions before obtaining proxy data; 2) prioritizing information collected (trips, then mode, then dates); and 3) omitting questions regarding detailed trip information after the first "don't know" response. Telephone interviewers will continue to make at least five callbacks to interview an angler before proxy data is taken. If a proxy respondent does not know the total number of trips made in the last two months, no proxy data is obtained. Proxy data is identified with the variable "SOURCE" (coded '2') in the Type 2 telephone datasets.

The screening introduction must be repeated for each additional angler interviewed. All anglers are asked to recall 1) the total number of trips made in the last two months, and 2) starting with the most recent trip, work backwards in time to completely profile each trip. If interviewing takes place on February 23, information can be taken on trips from December 23 through February 23. CATI systems should display allowable dates, or interviewers must have a calendar available to help respondents with dates, particularly with weekend dates.

If a angler cannot recall all the trips within the two month period, the interviewer must note the date they stopped counting. The angler must then be asked to estimate the number of trips and mode of fishing during the period between their last reported trip date and the beginning of the two month period. A trip record is created for each trip even if complete details are not remembered.

A fishing trip is defined as fishing during part or all of one waking day in one mode. A angler who fished from both a pier and a jetty on the same day made one fishing trip since the pier and jetty are both in the shore mode. However, a angler who fished from a party boat in the morning and from a pier in the afternoon is counted as having made two fishing trips--a party boat trip and a shore trip.

Fishing trips should be considered to be waking days, as opposed to calendar days. A trip beginning in the evening but ending past midnight would be considered one trip. Problems arise when an interviewer comes across a angler who has been on a trip, most likely a boat trip, lasting several days. In this instance, each of the angler's waking days would be considered a separate trip. If the angler's waking day was more than 24 hours, then more than one trip should be recorded since a single trip cannot be longer than 24 hours.

Item 1 Two-Month Trips? - The interviewer must record the total numbers of all fishing trips made in the previous two months. An inadvertent change in procedures in waves 1-3 of 1993 resulted in the discovery that this question is critical for the respondent to "commit" to the profiling of all of his/her trips.

Item 2 Date of Trip? - The interviewer must record the date of the fishing trip and assign a consecutive trip number for that angler. If the respondent cannot recall the exact day of the month, "00" should be recorded.

Item 3 Mode of Fishing? - Interviewers must record a single fishing mode for each trip. If more than one mode was used during a fishing day, the interviewers should record each mode as a separate trip. Respondents should be given definitions of particular modes if they have difficulty categorizing their fishing activity. Definitions for fishing modes are found in Section 2.2.1.2. Some unusual responses should be coded as:

IF THE ANGLER SAYS:	CODE:
"Sea Wall"	"4"-Other man-made structure and write "sea wall"
"This used to be a bridge but it is now used as a fishing pier."	"1"-Pier
"I hired and fished from a guide boat."	"7"-Charter boat
"I boated to a pier/dock/ jetty/breakwater/breachway/ Man-made structure bridge/causeway, got out of the boat and fished from the pier/dock/jetty/breakwater/ breachway/bridge/causeway."	"1", "2", "3" or "4"-
"I boated to an oil/gas platform, got out of the boat and fished from the oil/gas platform."	"4"-Other man-made structure and write "oil/gas platform"
"I boated to a beach/bank, got out of the boat and fished from the beach/bank."	"5"-Beach or bank

"I boated to a reef, got out of the boat and fished while standing on the reef."	"6", "7" or "8"- Code to type of boat used
"I boated to a barge, got out of the boat and fished from the barge."	"6"-Head boat

NOTE: The interviewer must repeat Items 1 and 2 until all trips the angler has taken during the two month period have been recorded.

Item 4 Boat Access Type? - If the mode was private/rental boat, the interviewer asks whether the public has access to the place from which the boat left or whether the access site is private. If the answer is "public", the type of site is asked: launch ramp (code "1"), boat slip (code "2"), moored from dock (code "3"), or other (code "4") with other specified. If the answer was private, the type of site is asked: personal residence or dock (code "5"), private locked gate marina (code "6", or other (code "8") with other specified.

Item 5 Time of Return? - If fishing mode was boat, ask the angler to report the time when his/her boat returned. If fishing mode was shore, ask the angler what time he/she stopped fishing for the day.

Item 6 Type of Water Fished? - Anglers are asked what type of "water body" they did most of their fishing in during that day's fishing trip. Follow-up questions are necessary for certain responses to ascertain whether fishing was in saltwater or freshwater and ocean versus inland.

IF THE ANGLER SAYS	ASK
"River"	Was that in the lower part of the river which is brackish or affected by the tide? If the answer is no, then the trip should be considered to be in freshwater and should be disregarded.
"Bay"	Was that an open bay or an enclosed bay? Open bays are not true bays but stretches of ocean that are called "Such-n-such" bay by local residents. Examples would be "Cape Cod Bay" and "Monterey Bay." Open bays should be coded as "open water".
"Inlet"	Were you more toward the outside or toward the inside of the inlet? Outside responses should be coded as "open water" and inside responses should be coded as "inlet".

NOTE: Flag trips from anglers who went fishing in foreign waters, even if their boat was launched from a U.S. port. This is a particular concern in the San Diego area.

Item 7 County of Fishing? - Interviewers should record the three digit FIPS code for the county of fishing, or if fishing from a boat, the county where the boat returned should be coded. If the respondent does not know the county of fishing, try to elicit a town or port name that can be later related to county.

Item 8 Oil, Gas or Reef? - On the Atlantic and Gulf Coasts, this item is pertinent to all anglers, except those in Maine, Massachusetts, New Hampshire, Rhode Island, and Connecticut, where this question is not asked.

In New York, New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, and East Florida interviewers can leave off the "oil or gas platform" part of the question and ask: "Was most of your boat fishing today within 200 feet of an artificial reef?"

Interviewers in West Florida, Alabama, Mississippi and Louisiana should ask the question including both "oil or gas platform" and "artificial reef" of all anglers fishing from boats. The appropriate code would then be entered.

For Maine south through Virginia

Item 8 Striped Bass? - For all anglers, ask if the angler, for each reported trip, personally caught any striped bass. If the answer is "yes", ask how many did the angler personally catch, and how many were kept.

For North Carolina south through Florida and in the Gulf

Item 9 Saltwater Tournament? - The interviewer asks if the angler was fishing in a saltwater tournament on that trip? If the answer was "yes", further questioning is necessary to determine if the tournament lasted seven days or less and if it was directed at gamefish. gamefish is defined as king and Spanish mackerel, dolphin, tuna, sharks, wahoo, bluefish, and billfish.

All Areas - Shellfishing Questionnaire

The shellfish questions are asked at the end of fishing household interviews of the entire household (i.e. after the last angler in the household has been interviewed). These questions are also asked of persons representing households that are ineligible for fishing interviews.

Item 1 Go Shellfishing? - The respondent is asked if anyone in the household went recreationally fishing for shellfish in saltwater in the last 12 months. Shellfish is defined as lobster, crab, shrimp, oysters, mussels, clams, scallops, etc. If the answer is "yes", check the yes box and continue. If "no", check the no box, offer thanks for the interview and politely terminate the interview.

Item 2 People Who Shellfished? - The interviewer asks how many people from the household participated in shellfishing in the past two months in the state.

Item 3 Trips? - The interviewer asks how many trips did each of those fishermen take and records the total, aggregated number of trips.

Item 4 Target Species? - The interviewer asks what was the target species on those trips and if all trips were for the same species. The interviewer should probe to get the number of trips for each type of shellfish mentioned. The total of these numbers should equal the total number of trips recorded in Item 3.

3.3.3 Callback Procedures

If the initial contact indicates that any members of the household are marine recreational anglers, every effort must be made to complete interviews with all possible eligible anglers in the household. At least five follow-up calls must be made to the household to interview anglers who were not available when the initial contact was made. The most efficient approach is to schedule times for these callbacks that are convenient for anglers in the household.

3.4 Telephone Household Data Entry and Edits

3.4.1 Interviewer Edits

Upon completion of interviewing for the day, interviewers must review their questionnaires for completeness and accuracy. Supervisors must review all questionnaires daily. Any apparent mistakes or inconsistencies must be checked with interviewers and, if necessary, the respondent should be contacted to clarify an answer.

Item-by-item instructions for interviewer and supervisor editing apply to the 1995 telephone household survey screening and interview questionnaires (Attachment N).

Screening Questions

Item 1 County of Residence? - The county code must be a valid three digit FIPS code for a coastal county in the State being called.

Item 2 Permanent Residence? - Only anglers from permanent, year-round residences are eligible to be interviewed.

Item 3a Anglers in Household? - This item should have a positive response if there is any further information from this interview.

Item 3b Twelve-Month Fishing? - Record the number of anglers in the household who went marine recreational finfishing in the past 12 months in their home State.

Item 4 Two-Month Fishing? - Record the number of anglers in the household who went marine recreational finfishing in the past 2 months from their home State. The response must be less than or equal to the 12 month fishing response.

Interview Questions

Item 1 Two-Month Trips? - Record the number of trips made by each angler in the past 2 months from their home state. This number should match the total number of trips profiled (or remembered even if all details were not remembered).

Item 2 Date of Trip? - The dates of the fishing trips for an individual angler must be in reverse chronological order. Only dates within 60 days prior to the interview date or "00" are valid.

Item 3 Mode of Fishing? - Fishing trips from shore modes must be coded from "1" to "5", while fishing trips from boat modes must be coded from "6" to "8."

NOTE: Particular attention should be paid to high numbers of trips reported for the head boat and charter boat modes. Reports of more than 3-4 trips in these modes may be due to interviewing a captain or crew member, and occasionally a commercial fisherman who did not understand the screening questions. Reports with more that 3-4 trips must be verified during the interview, and if necessary, through recontact at a later date.

Item 4 Boat Access Type? - Nothing should be coded unless Item 2 is coded as "6", "7", or "8". If public access is coded ("1"), type should be "1" to "4". If private access is coded ("2"), type should be coded "5" to "8".

Item 5 Time of Return? - Time should be between 0000 and 1200. The "am" or "pm" box should be checked. If the time is 1200, then either the "noon" or "midnight" box should be checked.

Item 6 Type of Water Fished In? - Ocean, gulf or other open water must be coded with "1." All other inland water bodies should be coded from "2" to "5".

Item 7 County of Fishing? - County codes must be among those on the site register for the State being dialed. Only valid three digit FIPS codes are allowed.

Item 8 Oil, Gas or Reef? - Fishing trips from States north of New York must have "not applicable" responses. Atlantic coast trips from New York through East Florida must be coded "1" or "3." Boat trips from West Florida through Louisiana must be coded from "1" to "3".

Item 9 Striped Bass? - Fishing trips in States south of Virginia must have "not appropriate" responses. For fishing trips north of North Carolina, if the response in Item 8 is "1", then the response to Item 8a must be greater than 0. If the response to Item 8 is "2", then both 8a and 8b must be 0. The response to Item 8b cannot exceed the value of the response to Item 8a.

Item 10 Saltwater Tournament? - Trips must be coded "1" or "2".

Shellfishing Questionnaire

Item 1 Go Shellfishing? - This item must have a positive response if there is any further information from this interview.

Item 2 Participants? - If Item 1 had a positive response then this response must be greater than 0.

Item 3 Trips? - The response to this item must not be a number less than the number recorded in Item 2. The product also can not exceed the product obtained by multiplying the response to Item 2 by 60.

Item 4 Target Species? - The total of the trips reported for all types of shellfish must equal the number given in response to Item 3.

3.4.2 Hierarchical Record Format

Telephone household data are stored in a three record hierarchical format with records linked by a unique identifier for each household. The identifier includes year, wave, subregion, state, county and household code number. Data included within each record type are:

Type 1 - Identifying information on the household and numbers of 12 month and 2 month anglers. One record per household. Non-fishing households are not key entered.

Type 2 - Information on each marine recreational angler in the household. One record per angler.

Type 3 - Information on each fishing trip taken during the previous two months. Includes detailed information on mode and area of fishing and gear used. One or more records per angler.

The format for each record type and variable descriptions for 1979-1992 are included in Attachment O.

3.4.3 Data Entry and Edits

Data entry procedures must be designed to achieve a data entry accuracy rate of at least 99.5 percent of all keystrokes. Dual data entry or other error checking data entry techniques should be employed.

Error checking must be accomplished through the use of table lookups during data entry and/or editing routines on the data set after data entry is completed for a wave. All checks described in Section 3.4.1 must be incorporated into machine edits. Every data element must be checked for data entry errors, reasonableness in falling within an acceptable range, and logic in relation to other data elements. Duplicate identification numbers must also be identified and corrected.

3.5 Quality Control

3.5.1 Interview Validation

All of the interviews completed by each new interviewer on the first day of work must be tracked to ensure that the interviewer is following procedures correctly and has good interviewing technique. Throughout the remainder of the survey, 10 percent of each interviewer's work must be validated by interview monitoring or by re-contacting the respondent.

Interview monitoring must be carried out by supervisors. The supervisor would listen to an interview in progress and record the respondent's answers on a second questionnaire. At no time will the supervisor interrupt the interview while in progress. Following the interview, the two questionnaires would be compared and any discrepancies resolved. Significant inconsistencies would necessitate additional intensive checking and validation of work completed by that interviewer. Supervisors should also give suggestions to help improve interviewing techniques.

Re-contacts of respondents attempt to verify that: (1) the interview took place, and (2) responses were coded correctly. At a minimum, information on date, mode, area and gear from the most recent trip recorded on the interview form must be collected during the re-contact to validate the coding of original responses.

3.5.2 Administrative Data Reports

The RFP specifies the data reports needed by NMFS on a regular basis to effectively monitor the conduct of the telephone household survey. Included are such items as completion of quotas and dialing results by subregion and state. Dialing results include, but are not necessarily limited to:

Line busy,
No answer,
Answering service,
Answering machine,
Not in service/disconnected number/dead line,

Connected to wrong number,
Household previously called on different number,
Business/coin phone/time/weather/computer tone, etc.,
Institutional housing (dormitory/barracks/nursing home),
Part-year housing,
Wrong county,
Initial refusal,
Communication problem (deaf, foreign language),
Could not answer 12 month question,
Refused to answer 12 month question,
No fishing in last 12 months,
Could not answer 2 month question,
Refused to answer 2 month question,
No fishing in last 2 months,
Number first-time contacts who indicated marine fishing activity but turned out to be non-fishing households.
Number of anglers who refused to provide trip information,
Number of anglers not available to be interviewed, and
Number of ineligible anglers (e.g., salmon anglers).

Timely submission of these performance data is necessary to maintain data collection quality through identification of problem areas and adjustment of procedures as necessary.

Also of critical importance to quality control is regular reporting from supervisors on interview validation results. Results of all supervisory activities described in Sections 3.1.3 and 3.5.1 must be fully documented. These include observations of in-progress interviews by interviewers, follow-up counseling after in-progress monitoring that identifies problem areas and improves interview technique, and counseling on problem areas following callback verification.

3.5.3 Outlier Analyses

The number of two month anglers contacted in the telephone household survey can be relatively small in several states and waves. Unusually large reported numbers of trips, given these small sample sizes, can result in unrealistic expanded estimates of trips, and then catch. In these cases, it is appropriate to conduct analyses to reduce outliers in the data set.

The method of outlier adjustment used since 1987 involves an examination of frequency distributions of pooled data for trips per household from the previous four years for a particular state, mode and wave. Any observation in the current data set that is outside of the 95th percentile, based on the most recent five years of data (by wave, state, mode) but exclusive of the current year, is reduced to the value of the 95th percentile. Outliers in the raw data base are never changed; the outlier analysis occurs as a step in the estimation process.